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Abstract

The effectiveness of social security's disability insurance program is examined in this study prepared under a Social Security Administration contract with Johns Hopkins University. Authors of the report are Richard T. Smith, Ph.D., Associate Professor of Epidemiology and Behavioral Sciences, and Abraham M. Lilienfeld, M.D., Chairman and Professor of Epidemiology, of the University's School of Hygiene and Public Health.

As a basis for evaluating the program, the authors and their research team conducted a followup study through personal interview and medical examination of denied and allowed applicants. The sample included 1,564 disability applicants, drawn from the applicant population in one metropolitan area, Baltimore, Maryland. The study presents these data in comparisons of the two applicant groups, and collectively.

Specific objectives of the study were:

To assess the effectiveness with which guides used in claim decisions measure the severity of disability and inability to work by analyzing survivorship rates of the two groups; by evaluating their illness, impairment, and functional limitations; and by analyzing their work experience and occupational changes.

To assess the influence of disability determinations on applicants' subsequent levels

of income and economic resources.

To examine the pattern of medical and rehabilitation services utilized by applicants, as a reflection of the guides used to measure severity of disability.

Some of the findings of the study are as follows.

A smaller proportion of allowances than denials returned to work after onset of disability; of the applicants who did return, 23 percent made a downward shift in occupational status. Continued on inside back cover

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The Social Security Disability Program An Evaluation Study

by RICHARD T. SMITH
and
ABRAHAM M. LILIENFELD

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FOREWORD

SINCE July 1957, the social security disability insurance program has been paying cash benefits to insured workers and dependents who are disabled. At the close of 1970, approximately 2,665,000 persons were receiving monthly benefits through the program. These were on the basis of determinations that because of disabling disease or injury the workers were unable to engage in substantial gainful activity.

As with any program vitally affecting many lives, there must always arise concern as to whether it is being effective in accomplishing its intended purpose, and whether its benefits are available to all persons who are truly eligible. This report, prepared under a contract between SSA's Bureau of Disability Insurance and Johns Hopkins University, represents an innovative research effort to measure that effectiveness. Although the sample on which the study is based was from one metropolitan area only, the findings may have implications for the program as a whole. Because the findings will be of interest to the many persons involved in the treatment, rehabilitation, counseling, or income maintenance of disabled persons, ORS was pleased to provide editorial assistance by Edna Lovering in preparing the study for publication in its Research Report series.

IDA C. MERRIAM,
Assistant Commissioner for
Research and Statistics.

JUNE 1971

PREFACE

THE BUREAU OF DISABILITY INSURANCE is directly concerned with the impact of involuntary retirements brought about by disability. The Bureau was fortunate, therefore, in being able to arrange a contract with the Johns Hopkins University School of Hygiene and Public Health for Drs. Abraham M. Lilienfeld, Chairman and Professor of Epidemiology, and Richard T. Smith, Associate Professor of Epidemiology and Behavioral Sciences, to make this study.

In keeping with the policy of the Social Security Administration to make its data resources available, while insuring the confidentiality of information on individuals and reporting units, the Bureau's Division of Disability Operations provided data to the study team concerning the applicant population. Further, the Bureau made a reassessment of each sample member as to eligibility for benefits, using current medical and earnings information but the same criteria as initially. This action could not alter in either direction the benefit status of the individual applicant, but it served to provide some comparative data for analysis.

The views and opinions expressed in the report are, of course, those of the authors and not necessarily shared by the Social Security Administration. The authors have in this report drawn interesting comparisons between denied and allowed disability applicants in terms of post-decision experience and various characteristics. They suggest that the denied applicant, if not attended by society's service functions, tends to deteriorate and become disabled later. Early diagnosis, treatment, rehabilitation, and secondary prevention would, they believe, mitigate this tendency.

BERNARD POPICK
Director, Bureau of Disability
Insurance.

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Chapter 1

STUDY OBJECTIVES

THE SOCIAL SECURITY ADMINISTRATION HAS administered a disability benefits program for insured workers since 1954.¹ The program's primary function is to provide income-maintenance benefits to workers with long-term disabilities that interfere with their ability to work. Disability is defined as the "inability to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment which can be expected to result in death or to be of long-continued and indefinite duration." ²

As part of the program, it is necessary to screen eligible (insured) applicants to determine entitlement to disability insurance benefits. This includes two major components: (1) an assessment of the individual's physical condition and level of functional impairment, and (2) determination of the individual's ability to work. The Social Security Administration has developed a set of medical standards and nonmedical evaluation guides to be used in making a disability determination. These standards and guides are the functional means established by the program to assure a relatively uniform and equitable system for evaluating disability claims and, concomitantly, to provide a broad framework for meeting the program's objective of insuring disability benefits to those who meet the necessary requirements. In the overall process of disability evaluation, the end result is either to allow an indi-

¹ See Lawrence D. Haber, *The Disabled Worker Under OASDI*, appendix C. Social Security Administration, Office of Research and Statistics, Research Report No. 6 (Washington, D.C.: U.S. Government Printing Office, 1964). See also William Roemmich, "Disability Decision-Making Theory," *The Journal-Lancet*, Vol. 86, No. 9 (1966), pp. 447-452.

² The Social Security Amendments of 1965 modified the definition of disability so that the phrase "to be of long-continued and indefinite duration" was replaced by the phrase "that has lasted or can be expected to last for a continuous period of not less than 12 calendar months." However, this change in definition does not alter the basic design of this evaluation study, as the amendment took effect after the data were collected. For a review of the Social Security Act related to this change, see Wilbur J. Cohen and Robert M. Ball, "Social Security Amendments of 1965: Summary and Legislative History," Social Security Bulletin, Vol. 28, No. 9 (1965), p. 14.

vidual's claim or to deny it. To the extent that the program's criteria accurately measure disability, the program's objective presumably can be attained within some reasonable limits of specificity. However, the judgmental process involved in this type of evaluation is complex, particularly with respect to its medical aspects. This process may include elements of uncertainty and ambiguity. The greater the magnitude of such elements operating within the system, the greater the likelihood that chance factors may influence the determination of disability for a given claimant. If these conditions prevailed completely, the applicants denied disability benefits would not differ from those allowed—on the average—in any of a number of characteristics, such as severity of disability, type of illness and impairment, survivorship, and ability to work. The absence of chance factors influencing the outcome of a decision would likely result in the greatest contrast between applicants denied and those allowed benefits. A measure of the program's relative effectiveness, in terms of desired outcome, can be ascertained by conducting a followup post-evaluation study on applicants that have been screened for disability and classified into the denied or the allowed category, as determined by the program's evaluation criteria.3

This is a report of such a study. The purpose of this study is to examine the post-evaluation experience of a group of applicants denied disability benefits (cases) and to contrast their experience with a group of applicants allowed benefits (controls). It includes an analysis of the current medical, vocational, and socioeconomic status of the two groups of disability applicants. The findings will provide some objective measure of the efficacy and accuracy of the guides used in benefit determinations.

The specific objectives of the study are:

- (1) to assess the effectiveness with which the guides measure severity of disability, by analyzing survivorship experience of the two applicant groups;
- (2) to assess the accuracy of the guides in measuring severity of disability and inability to work, by evaluating illness, impairment, and functional limitation characteristics of allowed and denied applicants;
- (3) to evaluate the measure of "ability to engage in gainful

³ Effectiveness can be viewed as the attainment of the goal defined by the program. "In evaluation research, the concern of the scientist should be with whether or not the program brings into effect the consequences intended." (Edgar F. Borgatta, "Research Problems in Evaluation of Health Service Demonstration," Milbank Memorial Fund Quarterly, Vol. 44, No. 4, Part 2 (1966), p. 187.)

employment," by analyzing work experience and occupational changes of applicants;

- (4) to assess the influence of disability determinations on applicants' subsequent levels of income and economic resources; and
- (5) to examine the pattern of medical and rehabilitation services utilized by applicants, as a reflection of the guides used to measure severity of disability.

The study was conducted during the period of March 1964 through September 1966, in Baltimore. It was regarded as a pilot project to ascertain the feasibility of conducting similar surveys in other areas of the country. The findings of the present study would thus serve two major purposes: an evaluation of the disability program on a limited scale, and a design and replication model for carrying out further studies.

All aspects of the investigation carried out by an independent research team are covered herein. The major sections include the study design and sample, the interview data findings, and the medical examination results. Details on the design of the study and field operations, as well as supplementary tables, are presented in the appendixes.

In the final chapter, the study results are reviewed to assess their significance with respect to current standards and guides for evaluating disability and, where applicable, to suggest alternative disability criteria that could improve the program's effectiveness.

Chapter 2

STUDY DESIGN AND SAMPLE

STUDY METHOD

Design of Study. This study is designed to permit group comparisons between those denied disability benefits and those allowed benefits. The data obtained for comparing the two groups came from three sources: applicant records, personal interviews, and physical examinations.

Study subjects were selected from a population of applicants who were residing in the metropolitan area of Baltimore, Maryland, at the time of application for disability. The Division of Disability Operations, without disclosing confidential information on individuals contained in social security records, supplied data on the applicant population to the study team. All applicants for disability during the study period were screened, using certain selection criteria, as follows:

- (1) White male
- (2) Under age 65 at time of disability determination
- (3) Disability caused primarily by one of the following disease systems:
 - a. Circulatory
 - b. Respiratory
 - c. Nervous
 - d. Musculoskeletal
- (4) Not confined to an institution at the time of disability determination
- (5) Among denied applicants, those denied for failure to meet the disability test (applicants denied benefits because of failing to meet the earnings requirement at any time or for failing to provide sufficient evidence were excluded)
- (6) Recent onsets—persons who applied within 5 years of becoming disabled.

This group of wage earners comprised the base population from which samples were drawn. The four disease groups selected account for approximately 80 percent of all applicants in this population. In addition to the initial selection criteria, there was the further requirement that only subjects who were alive and residing in the metropolitan area were included in the sampled groups. Those who were deceased, residing elsewhere, or lost to followup were replaced. Replacement was necessary in order to obtain data bearing directly on the post-disability adjustment of the subjects.

Sample Selection. Equal-sized samples of 756 subjects were to be randomly selected from each of the two applicant population groups. The size of the sample was determined by taking into account the estimated number of eligible persons available in the study area and the optimum number that could be interviewed and clinically examined during the study period. Sample subjects were sequentially processed during the field work phase in order to maintain an even flow of interviews and clinic examinations.

In order to account for variations in the program's criteria for evaluation, as well as the effect of elapsed time on other variables being measured, one-third of the study sample was selected so that they were interviewed and examined approximately 1 year after having been denied or allowed benefits, one-third at 2 years, and the other third at 4 years. A listing of the study population was made by date of disability determination and fractional random samples were drawn from each month-year stratum for each of the time periods, using the study entry date to determine the time interval.

Field Procedures. Following the selection of the study sample, each individual in the sample was interviewed at home. At the time of the interview, the applicant was requested to participate in the clinic phase of the study. Upon agreement, and with the permission of the individual's personal physician (where applicable), arrangements were made for the person to visit one of the cooperating hospital clinics for a general physical examination. In instances when it was not possible for the applicant to come to the clinic, special arrangements were made for conducting the physical examination at home, where a modification of the standard examination was performed.

The information obtained by personal interview included the following:

- (1) demographic and social characteristics
- (2) economic situation
- (3) work and employment history
- (4) disability and illness history, and
- (5) use of medical and rehabilitation services.

The physical examination included the following:

(1) general medical history

(2) general physical examination

(3) routine laboratory tests (blood chemistry, urinalysis)

(4) pulmonary function test (vital capacity)

(5) electrocardiogram

(6) X-rays of chest, hands, and wrists, and

(7) measurements of joint range of motion and muscle strength.

The modified home examination included items (1), (2), (5) and (7). The interview schedule and clinic forms used are shown in appendix A.

SAMPLE CHARACTERISTICS

Selection Factors. As a result of the sampling procedure used, 735 denials and 829 allowances were selected for a total study sample of 1,564. The disparity in numbers is due to the insufficient number of denied applicants to fill the desired quota. There were fewer denials from which to draw a sample and a high attrition rate, primarily due to out-migration. Because of high attrition rates in general, it was deemed necessary to increase the sample size by adding an equal number of recent onset applicants (within 1 year) to each group. The addition of 73 applicants brought the sample group of allowances to 829, and the sample of denials, increased by the same number, more closely approximated the denials' quota.

The denied applicant population totaled 1,278 persons, while that of allowances amounted to 3,114 (table 2.1). The proportion of denied to allowed applicants, 1 to 2.4, clearly illustrated the dearth of denial subjects available for sampling purposes. As a consequence of differences in the size of the base populations, 1 out of every 1.74 denials and 1 out of every 3.76 allowances were sampled. Approximately 57 percent of the denied applicant population was utilized in obtaining the sample, whereas only about 27 percent of the allowance population was used.

Table 2.2 presents the distribution of denials and allowances in the applicant population in terms of the number sampled, replaced, and not used, classified by the period in which initial determination of disability status was made. Consistently high proportions of denied applicants, from 52 up to 64 percent, were selected as compared to about 20 to 37 percent of allowances. A total of 481 denials (38 percent) were replaced for one reason or another, in contrast to 705 allowances (or 23 percent). Only 5 percent of the denied applicant population remained after selection of the

sample, while the proportion remaining in the allowance population was 51 percent. The remaining cases of denials could not be used to fill the desired quota because of sampling requirements and time-interval restrictions. The allowance cases remained in plentiful supply in all of the time intervals, even though the absolute number of replaced subjects was greater in this than in the denial group.

Among those subjects used in the selection of the sample, the majority of replacements were because of individuals residing outside the study area (table 2.3). However, the pattern of replacement differed for each of the study groups. While the major reason for replacing denials and allowances was relocation of residence, the allowances required replacement also to a large extent because of deaths. Of the total number of original subjects used, 40 percent of the denials and 46 percent of the allowances were omitted and had to be replaced.

The replacement procedure used permitted the sequential selection of subjects within a defined time interval for a given disability group, until an eligible replacement was selected. This resulted in some subjects being initially selected while others were selected at a subsequent time. The level at which an individual became a study member was determined by the number of previous selections made. Thus a person having "second-selection status" is one who was selected as the replacement for a subject previously selected and rejected.

Since a fairly large number of applicants were replaced, it is important to determine the extent to which this sampling procedure affected the composition of the final samples of denials and allowances. First, it would be useful to compare the two sample distributions on the selection status variable. Second, in order to assess the influence of selection order on sample composition, it is necessary to compare the distributions of denials and allowances on other variables, holding constant the level of selection order.

The proportion of initially selected subjects was greater for denials than for allowances (table 2.4). Initial and second-order selections accounted for the majority of subjects used in the final study samples: 85 percent for denials, and 81 percent for allowances. In general, obtaining the final sample of allowances involved more substitutions per final selected subject than the sample of denials.

The influence of selection order on age at study entry is shown in table 2.5, where selection order has been dichotomized into "initial" and "later." The initially selected group of subjects were slightly younger (55.6 years) than those selected later (56.8 years). This distinction was more marked for denials (initial,

54.1; later, 55.9); for allowances, the age difference was less than 1 year (initial, 57.1; later, 57.5). This trend toward the selection of older subjects was similar in both samples, thus minimizing the age difference between denials and allowances. Although the denial group was younger than the allowance group on the average, sample selection order did not appear to have greatly influenced the composition of the samples.

Another possible variable that may have been affected by selection order is socioeconomic status (SES). A measure of SES was derived from census tract data. The weighted median monthly rental value was obtained for each census tract in the study area.¹ The rank order distribution of these rental values was grouped into quintiles, using the white population of the census tracts. The SES fifth for each study member was determined by residence at the time of entry into the study.

There appeared to be little difference between initial and later selectees according to their socioeconomic status (table 2.6). No essential differences in SES rank are noted for the total group, for the denials, or the allowances.

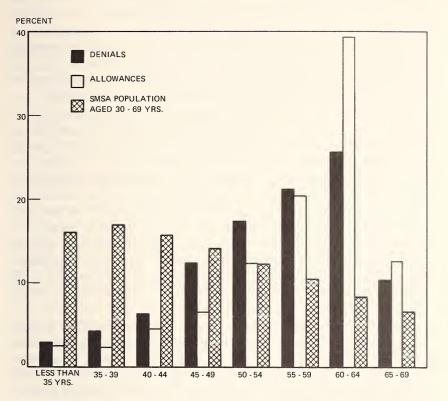
It would appear that the replacement procedure has not influenced the composition of the study sample with respect to age and socioeconomic status.

Community Population Comparisons. The final study sample had a number of attributes that made it distinct from the community from which it had been drawn. A number of characteristics were selected for making these comparisons, including age, education, occupation, and whether of native or foreign stock. Data for characteristics of the general population were obtained from the 1960 census of the standard metropolitation statistical area (SMSA).

Disability applicants tended to come from the older age groups in the population (table 2.7). Over 75 percent of the sample were aged 50 years or over, in contrast to about 35 percent in the community's general population. This difference is reflected in the average age for each distribution: 56 for the sample and 46.3 for the general population. Allowances tended to be somewhat older than denials—an average of 57.2 years, compared to 54.5. Since matching by age was not part of the sample design, the age distribution of each sample group tends to reflect the age composition of disability applicants in general.

¹ The method used in assigning an SES tenth value to each census tract is that employed by the Research and Planning Section of the Baltimore City Health Department (see Socio-Economic Tenths and Age, Race, Sex Distributions Within Socio-Economic Tenths, 1950 and 1960, Special Statistical Report, March 1963).

AGE DISTRIBUTION: DENIALS, ALLOWANCES, AND SMSA POPULATION



Source: Table 2.7

In comparison with the general population, the level of educational attainment of denials and allowances was lower and was a reflection of an older aged cohort of applicants (table 2.8). Approximately 68 percent of the study group had no more than an eighth-grade education, while only about 40 percent of the general population had this level of attainment. Only 26 percent of the disability study sample had received some high school education, in contrast to 42 percent in the general population. There was no marked difference in education between denials and allowances; the average educational level for denials was 8 years, and for allowances, 7.9 years.

The distribution of occupational status of the study group and of the SMSA population is shown in table 2.9. One-fourth of the experienced civilian labor force is in professional, managerial, and kindred occupations, although only slightly over one-eighth of the study sample was in this category. A high proportion of the study

group was composed of blue-collar workers (75.5 percent). In each of the blue-collar occupational categories, the proportion of such workers in the sample exceeded that in the SMSA. The majority of subjects in this study were concentrated in two major blue-collar occupational groups: skilled workers (craftsmen, foremen, and kindred workers), 30 percent; and semiskilled workers (operatives and kindred workers), 26 percent. These two groups represented 56 percent of the sample, whereas the general population includes only 35 percent in these occupational categories.

The denials and allowances each had a high proportion of skilled and semiskilled workers: 57 percent and 56 percent, respectively. The major difference between the two applicant groups was in the proportion of white-collar workers and in the proportion of residual blue-collar workers. There were more white-collar subjects among allowances (27 percent) than among denials (22 percent); and, conversely, there was an excess of service workers and laborers in the denial group (21 percent, denials; 18 percent, allowances). Although the occupational distributions of denials and allowances were skewed in the opposite direction, the distinction is not marked, and in all probability they represented the occupational composition of denied and allowed disability applicants in the community.

Because of the older-age characteristic of the disability sample, it was likely to contain a higher proportion of foreign-born and native-born of foreign or mixed parentage than would the general population. This is observed when comparison is made with the SMSA (table 2.10). Almost one-third of the study sample were of foreign-stock background, while less than one-fifth of the community population were so characterized. The denial group included a greater proportion of native stock subjects (71 percent) than the allowance group (66 percent). This is consistent with the fact that denials were somewhat younger in age, on the average, than allowances.

In summary, the final study sample of disability applicants differed from the general population in the following ways: the disability subjects were older, had fewer years of formal education, were more likely to be blue-collar workers (especially from skilled and semiskilled occupations), and included more subjects of foreign stock.

Final Study Sample. In the previous section, the denial and allowance study samples were compared by age at study entry, and by education, occupation, and nativity. This section presents additional data with respect to the composition of the final study sample but focuses on comparisons between denials and allow-

ances with respect to the following variables: initial primary diagnosis (by disease categories), sampling time period, age at onset of disability, and age at study entry date.

The distribution of denials and allowances by their initial primary diagnosis is shown in table 2.11. The differential distributions by disease within the denial and allowance samples reflect the disability evaluations made by means of the medical standards and guides used in the program. The percentages shown in this table are approximately proportional to those in the disability applicant population from which the two samples were drawn. Sampling from each disability applicant population was by simple random selection (within each designated time period). Based on disability applicant data published by the Social Security Administration, the rank order by disease categories in the two samples was similar to that observed among the applicants.²

Persons with diseases of the circulatory system constituted the largest segment of the denied and allowed groups—37 and 45 percent, respectively. Coronary heart disease was the major disease within this rubric. Among the allowances, the second major group was that group with diseases of the nervous system (primarily strokes), accounting for one-fourth of the allowance sample; in contrast, the second largest group among the denials was made up of persons having diseases of the bones and organs of movement (musculoskeletal)—36 percent. The most common of the latter diseases were arthritis and rheumatism.

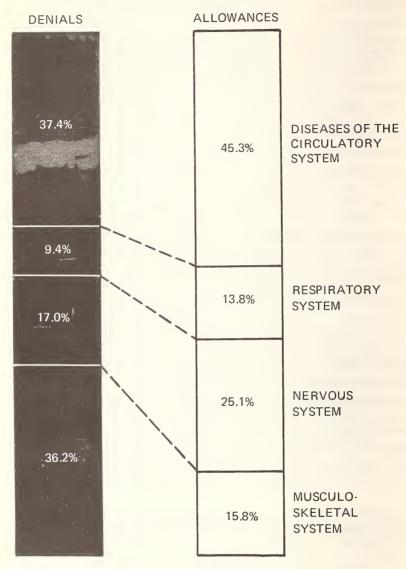
Each disability sample was selected in a manner calculated to account for changes in the program's criteria for evaluation over time. As mentioned earlier, three time periods were established in the design of this study in order to account for variations in the program over time. Within each time-period sample, one-third of the subjects were to be selected. Under ideal conditions of sam-

² A comparison of the frequency of the four major diseases, by order of prevalence, between the study sample and the U.S. applicant population shows close similarity, as follows:

	United States		Sample	
Disease systems	Denials	Allowances	Denials	Allowances
Circulatory Respiratory Nervous Musculoskeletal	2 4 3 1	1 3 2 4	1 4 3 2	1 3 2 4

One exception may be noted. In the comparison among denials, the first- and second-ranked disease groups are reversed. This may be due, in part, to the sources of data compared (U.S. versus one urban locality), to the time intervals involved (1960 versus 1960–1964), to selective survivorship, or to sample selection bias and response rates in the study population. (Source for U.S. data: Social Security Bulletin, Annual Statistical Supplement, 1960.)

PRIMARY DIAGNOSES OF DENIALS AND ALLOWANCES



Source: Table 2.11

pling, subjects would have been drawn in equal proportions from three applicant groups whose disability determination had been 1 year, 2 years, and 4 years prior to study entry. However, the distribution of the study sample by the designated time periods was not equal (table 2.12). Over two-fifths of the total sample was obtained from time period 1, with the remainder of the sample being somewhat equally divided between the two other time peri-

ods. Both denials and allowances had a high proportion of time period 1 subjects: 44.5 percent for the former and 39.2 percent for the latter. The magnitude of the difference in proportions is reversed in time period 2 and accounts for almost all of the difference observed between denials and allowances in time period 1. The sample proportions in time period 4 are about equal. In general, the more recent disability applicants proved to be the most accessible and were most likely to participate in the study. The longer the time interval before conducting a followup on the status of individuals, the greater the risk of attrition and of noncompliance among those contacted.

The distribution of the sample by initial primary diagnosis remained fairly uniform for the three time periods (talbe 2.13). Although some percentage variations occurred among the time periods for denials and allowances, differences were minimal. The selection of subjects by time periods thus did not differ with respect to the distribution of primary diagnoses.

The age distribution for each initial primary diagnosis, by disability group, is presented in table 2.14. Although allowances tend to be older than denials, one exception was in the respiratory disease group where the two groups were similar in age. The widest difference in average ages between allowances and denials was 3 years, in the circulatory disease group. Among allowances, those with circulatory diseases were generally older than members with other diseases. This relationship did not hold for denials, where those with respiratory diseases were oldest.

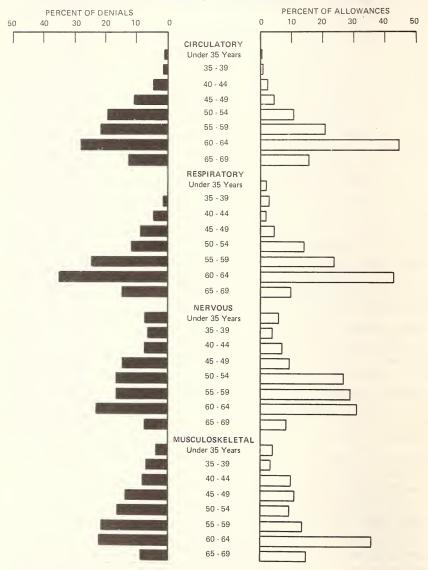
Age at study entry has been cross-tabulated with the time period since initial determination, in order to ascertain the effect of this sample selection procedure on the age composition of the study groups (table 2.15). The rank order of older-to-younger average ages was the same for each study sample and for the total sample. As expected, the applicants in time period 4 were older than subjects in the other time periods. The longer the interval between disability determination of the group and entry into the study, the more likely it was that the age composition would reflect an older-age cohort, given that the flow of applicants from different age groups remained relatively the same over time. In each of the time periods, allowances were older than denials. Differences in average age between the two samples were greatest in time period 2 (3.8 years), and least in time period 4 (0.6 years).

Age at onset of disease, based on record data, was tabulated for each initial primary disease and disability group (appendix A, table A 2.1). The pattern of age distributions by disease categories for denials and allowances and for the total sample, is similar to that observed in table 2.14 relative to age at study entry. How-

ever, since age at onset of the disease refers to a prior point in time, the average age was lower in each group.

A summary of the age characteristics for denials and allowances at certain defined points in time is shown in table 2.16. Disability applicants who were denied benefits tended to have their disability claims evaluated at an earlier age (based on the determination date of their applications), and reportedly experi-

AGE AT STUDY ENTRY, BY PRIMARY DIAGNOSIS



Source: Table 2.14

enced the onset of their diseases at an earlier age. However, the time lapse between disease onset and their disability determination was longer than it was for allowances. This may be related to the time taken for the adjudication of the denial applicant's claim, since a denied applicant is likely to be less severely disabled than an allowed applicant. In addition, the risk of greater severity of an illness and of subsequent impairment of functional capacity becomes more manifest with increasing age.

The differences in length of the time lapse between determination date and study entry date may be due to the method of selection of subjects from the applicant population. A greater proportion of allowances (61 percent) than denials (56 percent) were selected from the 2- and 4-year time periods (see table 2.12). This would tend to increase the time interval between these two events for the allowances.

Additional characteristics of the final study sample have been delineated and discussed in this section. Differences between the denied and allowed applicant samples have been enumerated. The variables presented here as part of the discussion on sample characteristics will be treated further in the presentation of the results in subsequent chapters.

FIELD SURVEY RESULTS

Interview Data. As part of the study design, an interview was used to obtain information directly from the subject. Trained interviewers were randomly assigned denials and allowances, and they conducted personal interviews with each subject. Area location assignments were varied to avoid interviewer bias; an interviewer did not interview in one locality only. The results of the field work are presented in this section.

Personal interviews were completed on 95 percent (combining the two "interview" categories) of the total sample of 1,564 (table 2.17). The response rate was somewhat better among allowances (95 percent) than among denials (94 percent). A 5- to 6-percent refusal rate is considered acceptable. This may be viewed as indicative of a good field staff, or a relatively pliant group for interviewing, or both. In this study, the first factor may be of greater validity. The study sample consisted of a group of disabled males who were likely less willing than others to voluntarily participate in a health and illness survey.

For the combined group, the interview response rate was highest in the respiratory disease group (97 percent), lowest in the nervous disease group (93 percent), and intermediate in the circulatory and musculoskeletal disease groups (94.5 and 94.7 percent,

respectively). In general, this pattern prevailed for both denials and allowances, although the actual response rates varied by disease categories within each. For example, the best response was obtained from allowances with respiratory diseases (98 percent) and the poorest response rate from denials with nervous diseases (91 percent).

The results were further subclassified by whether or not the subjects interviewed went on to receive a physical examination at one of the special clinics (table 2.17). About 5 percent refused to participate in the study and fully one-fifth of the total sample (22 percent) did not participate beyond the household interview. This proportion varied—19 percent among denials and 24 percent among allowances. Total participation (both the personal interview and the physical examination) was given by about 71 percent of the allowances and 75 percent of the denials. The lowest and next to lowest rates of total participation occurred in the circulatory disease group (67 percent for allowances and 72 percent for denials). The highest participation rate was obtained from denials with musculoskeletal diseases (79 percent). In general, participation in both phases of the study was probably the highest that could reasonably be attained. Further effort to induce participation would have resulted in increased costs and prolongation of the field work, with a diminishing return in terms of members added to the study sample.

The level of participation in the study, tabulated by time period since evaluation, shows a definite gradient of response (table 2.18). A higher proportion of subjects with recent disability determinations responded favorably (77 percent); the proportion fully participating decreased as the interval since the initial determination of disability lengthened—72 percent for the 2-year group, and 68 percent for the 4-year group. The same pattern holds in each of the study groups, although the gradient is more marked for the allowances.

Conversely, one might expect that the longer the time lapse since disability determination, the greater the risk of a refusal to participate; however, this is a characteristic primarily of the allowances, where the refusal rate is 6 percent in the 4-year group and drops to 4.6 percent for time period 1. This distinction is less clear among denials when comparison is made between these two time periods (6.8 percent for time period 4, and 6.4 percent for time period 1). The intermediate (2-year) time interval between disability determination and study entry presents the lowest refusal rate in each of the study groups.

In a comparison based on the selection order of members in the denied and allowed groups, the rate of refusals was higher among those in the later selection (appendix A, table A 2.2). In the total sample, later selectees had a refusal rate of 6.2 percent, in contrast to initial selectees with a rate of 4.8 percent. Similarly, denials were found to have a rate of 7.1 percent for later selectees but only 5.5 percent for the initial group; allowances had rates of 5.5 percent and 4.0 percent in these respective categories.

Participation rates by age at study entry for each of the samples, and for the combined group, are shown in table 2.19. Individuals under age 60 tended to participate more fully in the study than those aged 60 and over. In the total sample, only 60.4 percent of the older group assented to a clinic physical examination, while younger groups had higher rates. Also, proportionately fewer of the older subjects accepted a home physical examination, causing a higher proportion to fall in the "interview only" category. The refusal rate in the 60-and-over group was not noticeably higher than in other age groups.

Among denials, a more distinct pattern emerges by age. The younger the subject, the more likely he was to fully participate in the study. As age increased, the subject was more likely to participate only in the interview phase or not at all. This pattern does not appear in the allowance sample. The 40–49 age group participated to a greater extent, proportionately, than any of the other age groups.

Participation frequencies have been tabulated by the number of years of formal education achieved (table 2.20). There appears to be some tendency for those with more education to participate less fully in the survey. In the total sample, 65 percent of those with 13 or more years of education fully participated, while 73–74 percent of those with less education had full participation. However, the more educated group participated in greater proportion in the household interview phase. Nonparticipation rates were not markedly different by levels of education. The pattern of participation is similar for both denials and allowances; however, the influence of educational level is not great, as shown by a comparison of average years of education. Subjects with a higher level of education were more likely to refuse to participate in the study. The other categories of participation do not show any marked gradient by average years of education achieved.

In the total study sample, subjects in blue-collar occupations were more likely to fully participate in the study than those in white-collar occupations (table 2.21). Occupational grouping is based on the subject's job at or before the onset of disability. The participation rate for service workers was highest (80 percent), while that of laborers—as a blue-collar group—was lowest (72 percent). Refusal rates varied by occupational status of the sub-

jects in that the top white-collar group (professional and managerial workers) and the highest and lowest blue-collar groups (craftsmen, etc., and laborers, respectively) had the lowest rates.

The pattern of participation in the clinic physical examination phase of the study, by blue- versus white-collar occupations, was similar in each of the study samples. There was a shift in the pattern of refusal rates in comparing denials with allowances. In the denials, the professional-managerial worker and laborer groups had the lowest refusal rates—2.4 percent and 4.5 percent, respectively. Among the allowances, refusal rates were lowest in the skilled worker and laborer classifications (3.1 and 3.4 percent, respectively).

This section has presented the major results of the field interview survey. General levels of participation, categorized by interview only, interview and clinic physical examination, and interview plus nonclinic physical examination, were analyzed, using a selected number of variables. The field survey results will be discussed in further detail, taking into account some specific factors associated with the physical examination phase of the study, in the following section.

Physical Examination Data. The field survey results presented in this section exclude the interview refusal group from the total sample since this precluded their possible participation in the clinic phase of the study. The total sample was thereby reduced by 84 (45 denials and 39 allowances), leaving a remainder of 1,480 study members in the total sample. The denial sample consisted of 690 cases, and the allowance sample of 790.

Each study member who participated in the household interview survey was requested to attend one of the special hospital clinics for a standard physical examination. The initial response to this request was recorded on the interview schedule. Where arrangement for a clinic visit could not be conveniently scheduled, a request for a home examination was made and, if accepted, a physician conducted the examination. A study member who refused to participate in the medical examination phase was recontacted and asked to reconsider his decision.

Data have been tabulated on the physical examination response rates, according to initial response and final study status (table 2.22). Initial responses to the request for examination were subdivided into two categories: those who agreed to clinic examination, and those who agreed to nonclinic (home) examination. A total of 1,198 study members gave their initial approval to participate in the clinic examination. Of this group, 81.5 percent did visit a clinic, and an additional 4.7 percent of them changed to a home

examination, for a total of 86.2 percent completion rate. Denials had a completion rate of 87.9 percent, while allowances achieved a rate of 84.8 percent among those initially indicating they would undergo a clinic physical examination. Approximately 10 percent of those initially agreeing refused to participate in the clinic examination; this proportion was about equal in each of the study samples.

Among those who had indicated an initial preference for a home examination, an increased proportion refused to complete the arrangements at the time of followup. Of the 116 persons in this group, 19 percent refused to comply. This refusal rate was higher among allowances (19.6 percent) than denials (15.8 percent); however, the bulk of those agreeing to a home examination initially were among the allowances (N=97) rather than denials (N=19). This skewed pattern of responses would be expected, given the composition of the two study groups. This pattern is reflected also in the rate of private physician disapprovals under this category. About 7 percent of the study members did not agree to a home physical examination because of their physicians' judgment to the contrary.

When those who initially refused to participate in the clinic phase were recontacted at a later date, close to 10 percent either came into the clinic or permitted a physical examination at home. A small group of subjects (N=42) were classified as noncommittal in their initial response to the examination phase, and their final responses were varied.

Of the 1,480 subjects interviewed, 1,143 (77.2 percent) were full participants in the study. This group included 997 persons (67.3 percent) who accepted a clinical examination, and 146 (9.9 percent) who accepted a home physical examination. The rate of full participation (including clinic or nonclinic physical examination) for denials was 80.1 percent, while for allowances it was 74.7 percent. Proportionately, almost twice as many allowances as denials had a home physical examination, 12.7 percent and 6.7 percent, respectively. Most of the loss (19 percent) in study members was due to refusal to participate in the clinic phase.

Among the 1,143 subjects participating in the physical examination phase of the study, 553 were denials and 590 were allowances. In order to accommodate the number of individuals who were to be processed for clinical examinations, arrangements were made with three hospitals; two of these, Johns Hopkins and University Hospital, were operationally geared to handle the majority of the examinations. The routine examination required a half-day. The other clinic, Maryland General Hospital, was included to provide a series of detailed pulmonary function tests on a randomly selected

subgroup of patients, in addition to the standard physical examination. These required an additional half-day.

The proportions of patients seen at the two major clinics were similar: Johns Hopkins, 37 percent; and University Hospital, 39 percent (table 2.23). The special clinic, Maryland General, accounted for an additional 11 percent, while another 13 percent were handled on a nonclinic basis, namely, home- or institution-based examinations. Over twice as many allowances (17 percent) as denials (8 percent) were examined in a nonclinic setting. Among allowances, a higher proportion were examined at the Johns Hopkins clinic than at the University Hospital clinic (38 and 36 percent, respectively); the order was reversed for denials and the difference was greater—namely, 36 percent at Johns Hopkins and 42 percent at University Hospital. The Maryland General clinic processed more denials (N=74; 13 percent) than allowances (N=55; 9 percent).

A breakdown, by initial primary disease systems, of the number of patients processed by the three clinics is also shown in table 2.23. The unequal distribution of subjects by clinic location for each disease group resulted primarily from the appointment schedule in each clinic, the availability of the patients to attend the clinics at specified times, and the requirement of scheduling some of the examinations in nonclinic settings. In general, no control by disease system was maintained over the flow of patient appointments to designated clinics. It is interesting to note that relatively high proportions of both nervous and musculoskeletal disease groups among allowances were examined in nonclinic locations. This may be a reflection of the greater severity of disability within these groups, in contrast to other disease groups among allowances.

Following the household interview, an attempt was made to schedule a clinic visit for each subject as soon as possible, to avoid the risk of losing a subject as the result of delay. Certain delays were unavoidable either because of limitations imposed by the clinic appointment schedule or because of the unavailability of a patient at a given time. In some instances, extended delays were encountered, usually due to an acute episode of illness or loss of contact with the subject.

The distribution by time interval between interview and examination (clinic or nonclinic) for each study group is shown in table 2.24. The average interval between these two events was 1.3 months for the total sample, and 1.2 and 1.5 months, respectively, for denials and allowances. The lapse of time was not appreciably different for the two major clinics, but it was less for the special clinic. The longest time interval was that preceding the home

physical examination, which involved making arrangements convenient to both the subject and the assigned physician. In addition, subjects examined at home were generally more ill or disabled, and hence would defer appointments until they felt well enough to participate.

A number of factors involved in completing the clinic arrangements are presented in table 2.25. It takes account of some administrative procedures employed in order to secure participation from those who otherwise would have refused.

Each study member was asked at the time of the household interview whether he was under the care of a private physician. If the respondent had a local physician and had agreed to undergo a physical examination, his physician was contacted for permission for the patient to attend one of our special hospital clinics. The same procedure was used for nonclinic examinations. Approximately 10 percent of the total sample gave a negative reply when asked if they had a local doctor. There was a striking contrast between the two study samples: fully nine times as many denials as allowances reported having no local doctor (19 percent and 2 percent, respectively). For 87 percent of the sample, the physicians approved the request to have their patients examined, while only 3 percent withheld approval. Almost 5 percent of the allowance sample was excluded from the clinic phase of the study, but only 1.5 percent of the denials. The level of disability and illness experienced by the allowed disability applicant group was probably responsible for this marked increase.

Another factor in obtaining the cooperation of the volunteers to participate in the examination phase was provision of transportation to the designated clinic. The extent of such services provided to members of the study sample is shown in table 2.25. The "not provided" category accounts for those individuals who were not furnished this service for one reason or another, including persons who had the examination at home. Well over half the study sample (56 percent) required transportation to the clinic, and the proportion was somewhat higher in the allowance group. In general, this percentage would have been higher if one excluded from the total count the group having nonclinic examinations. This would have had the effect of reducing the number in the "not provided" category, while the number in the "provided" category remained the same. If calculated in this manner, approximately 64 percent of the total clinic examination group was provided with transportation service.

Finally, a number of subjects would not participate in a clinic visit unless reimbursement was made for lost wages. In the majority of cases this was unnecessary because the individuals were not employed at the time or, as in a few instances, the employer permitted the study member to attend the clinic without being docked for time off the job.

Field Work. A further feature of the field survey results relates to the work carried out in the field by the interviewers. A brief discussion of some of the more pertinent details concerning the means used to achieve the end results will be presented in this section.

The distribution of study members by the total number of contacts required for final disposition in the study is shown in table 2.26. The definition of a contact is not limited to a direct confrontation with the individual by the interviewer, but includes all legitimate field attempts in locating the respondent. A subject "not at home" at the time an interviewer visits his residence is counted as a contact; an outdated address but one which involved a visit by an interviewer to ascertain this information is also considered a field contact; a "false" visit to a residence based on misleading or erroneous information is a contact. Many of the contacts made in the field were tracing efforts, which resulted from subjects being temporarily lost to followup.

The number of contacts required to complete a study member's case averaged 2.4 for the sample as a whole. A slightly greater effort was needed to complete a denial case (2.7 contacts) than an allowance case (2.1 contacts). The final study status was determined in eight out of 10 cases (81.8 percent) with three or less field contacts. Nearly 46 percent of the allowance sample was completed following one field contact, while one field contact netted only 30 percent of the denial sample. In general, two or three field contacts were required to obtain a complete interview or a refusal.

Another feature of the field work was the amount of time required to complete an interview. This was related to the amount and type of information desired from each subject, as well as to the ability of the interviewer in obtaining such information. In this study, the interview schedule included fairly detailed questions about the subject's illness history, work experience, economic status, and hospital and medical services received (see appendix A for a copy of the schedule). As a consequence, it required 1 hour and 8 minutes, on the average, to complete an interview (table 2.27). Denials and allowances were alike in time required for interview. Similarly, the modal group in both study samples was in the 1-1½ hour time interval. Overall, the results shown were as expected, based on pretest trials with this schedule.

In one additional analysis of the work conducted in the field, the distribution of the study sample was tabulated by time-of-day and

day-of-week factors, only for the household-interview sample (tables 2.28 and 2.29). The great majority of interviews were conducted during daylight hours, and the modal period was in the afternoon. Both study samples were similar in this respect although a somewhat higher proportion of denials were interviewed during the evening hours. The field work was mostly spread over the 5-day week, but it seemed to lessen on Friday (table 2.29). The modal day of the week was Tuesday, which may indicate that the field staff started in earnest on that day of the week. The distribution of interviews by day of the week likely reflects the field staff's effort in general, rather than the actual availability of subjects on these particular days.

This chapter has presented the basic design of the disability evaluation study and the primary components involved in the conduct of the survey. These include the study method, sampling procedures, and field survey results. The details of each of these have been discussed. On the basis of the data collected in this survey, the results of the post-determination evaluative study of denied and allowed applicants are presented in subsequent chapters.

Chapter 3

SURVIVORSHIP FOLLOWING DISABILITY DETERMINATION

ONE METHOD OF ASSESSING THE EFFECTIVENESS of a program is to examine the status of affected individuals at some subsequent point in time. The disability evaluation program of the Social Security Administration is designed to differentiate those applicants who are severely disabled from those who are less severely disabled. The applicant's disability status is determined on the basis of medical standards deemed appropriate to his particular disease, and nonmedical guides. Either the applicant is allowed incomemaintenance benefits in support of his claim that he is unable to engage in any substantial gainful activity, or he fails to prove that his disability is severe enough to warrant benefit payments and his application is denied. The result of this disability determination is not irrevocable, and may be reviewed at a later time.

An analysis of mortality and survivorship among denied and allowed disability applicants might be considered an index of the program's effectiveness in distinguishing which ones are the more severely disabled. However, mortality can only be regarded as an indirect measurement. Certain disabling illnesses, such as arthritis and rheumatism, have a low risk of death and hence would not be taken into account in an analysis of mortality data.

One of the problems encountered in the program evaluation study resulted from the requirement to replace subjects who were deceased or residing elsewhere at the time of sample selection. In order to avoid this bias in selection with reference to survivorship, records on all subjects replaced in the study were checked to ascertain the status of the applicant at the time of entry into the study. If he died prior to the study entry date, death information was obtained in order to establish the date and cause of death. Survival time was calculated from the disability determination date to the date of death. If he died prior to the determination date, he was excluded from the analysis on the grounds that he was ineligible for sampling purposes. A replaced case who died subsequent to the study entry date was excluded because no systematic followup procedure was in force to ascertain the mortality

status of individuals subsequent to the study. In any case, the number of subjects excluded by these arbitrary limits was small.

GENERAL SURVIVORSHIP

Applicants replaced in the study group numbered 1,186 persons, of whom 481 were denials and 705 were allowances (see table 2.3). Followup work was completed on all but 1 of these individuals (a 99.9-percent rate of completion). This replaced group was combined with the selected study sample (N=1,564) making a total of 2,749. Thus, for the mortality and survivorship analysis, the study members included not only the regular sample but also the deceased and otherwise unavailable applicants who had been replaced in the process of composing a workable sample.

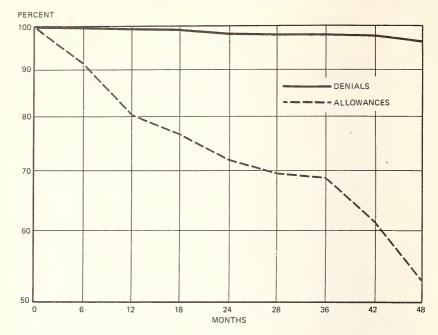
A life table analysis of survivorship was carried out on the total study sample, including a breakdown by initial primary diagnosis and disability status (table 3.1). The life tables are age-adjusted, using the age distribution of the total study sample at the time of determination. The legend at the bottom of table 3.1 gives the meaning of symbols used in column headings.

The cumulative probability of surviving from the date of disability determination to the 4 years maximum is markedly less for allowances (53 percent) than denials (97 percent). It must be noted, however, that not all of the individuals were followed up for the same length of time. For example, applicants with recent onset of disability (time period 1) were followed for approximately 1 year, to the study entry date. The individuals followed for the maximum period of 4 years were those selected from time period 4.

The cumulative proportion of allowances surviving to the end of 1 year was 80.4 percent, while more than 99 percent of the denials survived the same time period. The proportion of allowance deaths increased at the end of the followup period—namely, 10.8 percent in the 37–42 month interval, and 13.1 percent in the 42–48 month interval. It appears that there are two critical periods when the risk of death is high among allowances: at the end of 1 year following determination of disability, and at the end of $3\frac{1}{2}$ or 4 years. Denials do not exhibit the same mortality pattern; however, the highest proportion of deaths (1.4 percent) did occur at the end of the followup period.

The cumulative probability of surviving for each major disease group, by disability status, is shown in table 3.2. Striking differences occurred within each of the disease groups. The general mortality pattern noted in the previous paragraph for the allowance group in general is most evident in the circulatory disease group. The proportion surviving to the end of the followup period was

CUMULATIVE PROPORTION SURVIVING THROUGH 48 MONTHS

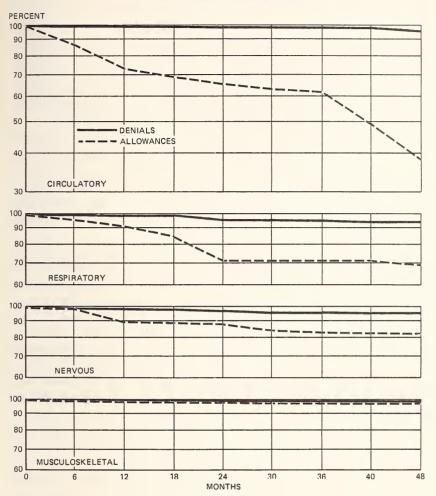


Source: Table 3.1

only 38 percent. The next lowest rate of survival occurred among allowances with respiratory diseases; the cumulative proportion surviving to the end of the period was 69 percent. Diseases of the nervous system showed a better survival pattern, in that 81.8 percent of the allowances were alive at the end of 4 years. Allowances with musculoskeletal diseases showed the best pattern of survival over time: 97.6 percent at the end of the followup period.

The denials exhibited very favorable survival trends over time in each of the major groups. In comparison to the low rate of survival observed for allowances with circulatory diseases, surviorship among denials was high (95.6 percent). The lowest survival rate for denials was in the respiratory disease group, 94.2 percent, but this was considerably higher than that observed for allowances (69 percent). In general, the survivorship experience of denied disability applicants was better than that of allowances in all of the major disease categories except one. In the musculo-skeletal disease group, allowances had about the same rate as denials. This observation is consistent with the point made previously about the inadequacy of mortality data to test, even partially, the disability program's effectiveness in discriminating between the more severely disabled and the less severely disabled. The issue of

CUMULATIVE PROPORTION SURVIVING, BY DISEASE CATEGORY



Source: Table 3.2

differing levels of disability among denied and allowed applicants, based on a post-determination evaluation, cannot be resolved on the basis of mortality data for this disease system.

SURVIVORSHIP AMONG INITIALLY SAMPLED SUBJECTS

It would be of interest to limit the analysis of survivorship patterns to subjects in the initial sample. This restricts the size and composition of the sample to those initially selected, irrespective of whether they were replaced. In general, replacement sampling was used to obtain living available substitutes for deceased

and out-of-town subjects. The initial sample group may have comprised a higher proportion of deceased subjects than the total sample population. On the other hand, those replaced in the initial sampling frame may have been alive, but residing outside the study area. If death was the main reason for replacing sampled subjects, then the initially selected cohort would have had a lower survival pattern than one based on all selected and replaced subjects. If living but residing outside the area was the major reason for replacement, then the initially selected cohort should reflect the same or higher survival pattern as the total group.

The initial sample group consisted of 1,587 subjects, of whom 760 were denials and 827 were allowances. There were 307 replaced denials (40.4 percent, out of the total of 760); there were 378 replaced allowances (45.7 percent, out of the total of 827). These proportions are similar to those observed in the total study samples: 39.5 percent replaced among denials, 46 percent replaced among allowances.

The analysis of survivorship for the initial sample by disability status, and by each initial primary disease category, is shown in table 3.3. The results presented in this table have not been age-adjusted since this did not appear necessary. The cumulative probability of surviving to the end of the 4-year followup period was 58.4 percent for allowances and 84.4 percent for denials. Thus, by taking into account the initial sample subjects only, allowances continued to show a lower rate of survival than denials. However, the survival rate for denials decreased considerably, in comparison with the rate for denials in the total sample. This change may have been due to the fact that the initial sample of denials included a greater proportion of deceased subjects. On the other hand, the slight rise in the survival rate observed for allowances may be due to the fact that the major reason for replacement was that the subject was alive but residing elsewhere, or that such a reason applied to at least a substantial proportion of the allowances replaced. The fact remains, however, that the rate of mortality was shown to be considerably higher among allowances than denials.

Within each of the major disease groups, the survival rate for allowances was lower than that observed for denials. Allowances in both the circulatory and respiratory disease groups had low rates, 53.9 percent and 51.3 percent, respectively. Among the allowed subjects, those with diseases of the nervous system had a somewhat better survival rate, 57.9 percent, while those with musculoskeletal diseases showed the highest, 81.5 percent.

In contrast to the allowances, denials maintained a higher rate of survival in each of the disease categories. Not surprisingly,

percent), and those with musculoskeletal diseases had the highest rate (91.5 percent).

With one exception, the 4-year survival rates in the four disease groups were lower in the initial sample than in the total sample. Among allowances with circulatory diseases, the survival rate in the initial sample was higher (53.9 percent, as opposed to 38 percent). A possible explanation of this reversal is that a greater proportion of subjects in the initial sample may have been alive but residing elsewhere, rather than deceased; and, in keeping with this explanation, a greater proportion of the "later selections" replaced would have been deceased, which in turn would contribute to the higher mortality observed in the total sample.

The life table analysis of survivorship data presented in this chapter leads to one major conclusion: that allowed disability applicants as a group had a higher mortality rate over time than those who were denied benefits. This is apparent in each of the primary disease groups analyzed in this study, although the differences are much smaller in the musculoskeletal group. The pattern of survivorship remained essentially the same in both the life table analysis using the total sample, and the one using the initial sample only. Followup information on each applicant's life/death status since the date of disability determination was virtually complete, thus ruling out any selective factor due to incomplete data.

The succeeding chapters in this report focus on data derived from subjects still living at the time the study was conducted. This group constitutes the final study sample.

Chapter 4

DISABILITY STATUS AND SOCIOECONOMIC CHARACTERISTICS

THE INTERVIEW SCHEDULE USED IN THIS STUDY included questions designed to elicit information on the social and economic characteristics associated with the post-onset status of the disabled worker. The major subject areas included living arrangements, personal and social attributes, and the economic means for sustenance. With the information collected it is possible to compare denials and allowances with respect to these socioeconomic attributes as well as to determine changes in socioeconomic status between the pre- and post-onset periods of disability. Change in socioeconomic status, as a measure of change in life style, may be used as an indicator of the adjustment made by the individual. The final study group on whom this information was obtained consisted of 690 denials and 790 allowances, a total of 1,480; excluded were 45 denials and 39 allowances who refused to participate in the study.

LIVING ARRANGEMENTS

The information on living arrangements pertained to each subject's current situation. Most study members (67.1 percent) resided in single or multiple dwelling units, and an additional 19.9 percent lived in apartments (table 4.1). Approximately 12 percent lived in other types of housing, including trailers, rooming and boarding houses, and flophouses. Just over 1 percent of the sample resided in an institutional setting, such as a nursing home or chronic disease hospital. A higher proportion (71.3 percent) of allowances lived in individual dwellings than denials (62.2 percent). Twice as many allowances as denials resided in institutions, although these numbers are quite small (1.5 and 0.7 percent, respectively).

The average number of rooms per household in the study sample was 5.2 (table 4.2). A slightly higher average was observed for allowances, probably because of a greater proportion residing in

houses, rather than apartments.

A fairly high proportion of subjects lived with members of their immediate family, i.e., with spouse and/or children, but excluding other relatives and nonrelated persons. In the total sample, 68.8 percent resided in households of this type (table 4.3). About 16 percent of the sample resided with other relatives or nonrelated persons. Slightly over 9 percent of the sample lived alone.

Denials, more than allowances, lived alone or with persons other than immediate families (30.7 percent and 21.4 percent, respectively). In this respect, a greater proportion of denials resided in households that were less intact in terms of family.

The majority of subjects were heads of households (70 percent). (See table 4.4.) In an additional 12.5 percent, the spouse, a sibling, offspring, or other relative was head of the household. A higher proportion of allowances (14.5 percent) were in this dependent status in the household than denials (10.2 percent).

Proportionately more denials (9.6 percent) than allowances (4.9 percent) resided in households where the head was a nonrelated individual. In general, denials more than allowances tended to reside alone or with nonfamily persons.

The above characteristics, household composition and head of household, are reflected in the data presented on the number of persons in the household (table 4.5). That is, diversity of household composition and status as nonhead of the household were, for denials, also associated with increased size of the household. Twenty-two percent of the denial group lived in households comprising five or more persons, but only 16.3 percent of the allowance group fell into this category. However, this pattern was not sufficiently marked to produce appreciable difference in the average size of household for the study groups: 3.5 persons for denials, and 3.2 persons for allowances.

OTHER ATTRIBUTES

The distribution of the study sample by current marital status revealed that about seven out of 10 members were presently married, about 10 percent were single, and 20 percent were widowed, divorced, or separated (table 4.6). Among allowances, 74.2 percent were currently married, in contrast to 65.2 percent among denials. The difference was mostly accounted for by increased proportions of widowed, divorced, and separated persons among denials. It would appear, therefore, that the denials as a group had a less complete family-centered environment, as represented by a broken marriage, loss of spouse, single marital status, and a household more diverse in composition.

As expected for people residing in the study area, the religious preference of the largest proportion of study members was Protestant, including all denominations (table 4.7). About 55 percent of the sample were thus represented. Thirty-three percent were Catholic, 7 percent were Jewish, 1 percent were of other faiths, and 5 percent professed no religious preference. Allowances had a somewhat greater proportion of Catholics and Jews, religious groups that are characterized by family stability. This may account for the more family-centered environment of allowances, discussed above.

Another attribute of the sample for study is nativity status. The nativity composition for each initial primary disease group, by disability status, is shown in table 4.8. (See table 2.10 footnotes for an explanation of terms.) As mentioned earlier in this report, the study group had a higher proportion of foreign stock than that observed for the general community. This was likely a function of age, as the study sample was an older group, in comparison with the general population. The circulatory disease group had the highest proportion of foreign stock (36.4 percent) as compared to the other three disease groups, and this disease group was also older than the others. However, the respiratory disease group, was nearly equal (in average age) to the circulatory disease group, yet exhibited the lowest proportion of foreign stock (20.2 percent); this was true for both denials and allowances.

Among allowances, the circulatory and musculoskeletal disease groups had high proportions of persons of foreign stock. The latter disease group had the lower average age. The pattern was somewhat different for denials. Aside from the circulatory diseases, the nervous disease group among denials had the highest proportion of foreign stock. There was no clear-cut pattern distinguishing denials from allowances on the nativity characteristic.

A final attribute of the study sample presented in this section is related to duration of residence in the community. Two facets of this variable are discussed: duration of residence in the neighborhood, and duration at the present address. The former is more characteristic of the community of residence, in general, and the latter is more characteristic of the person's residential stability. As shown in table 4.9, duration of residence in the neighborhood was relatively high, 15.4 years on the average. Allowances appeared to have had more propinquity to the neighborhood than did denials in terms of the average number of years each group had lived there—16 years for allowances and 14.6 years for denials. In each group, however, the majority had resided in the neighborhood for 10 years or more—68 percent of the allowances, and 62 percent of the denials.

The average duration of residence at the present address was 10.8 years for the total sample. While people may remain in a given community for an extended period, they generally make a number of intracommunity moves. On the average, denials had resided at their present address for a shorter period of time than allowances. Approximately 44 percent of the denial group, in contrast to about 32 percent of the allowances, had lived at their current address for less than 5 years. Allowed disability applicants appear to have had a more stable residential history than the denied applicants.

ECONOMIC LEVELS OF SUSTENANCE

An area of analysis that is of primary concern in income-maintenance programs pertains to economic means for sustenance after the onset of disability. Economic factors can be a pivotal point with regard to the general level of independence achieved by those with chronic disabling diseases. Such resources can provide for medical and rehabilitative services, and enable the individual to maintain an independent pattern of living.

In the disability evaluation program, denied disability applicants are those who are adjudged less severely disabled and, by implication, able to engage in some form of work for economic support. Therefore, denials would be expected to exhibit those characteristics that reflect a higher level of independence in matters related to earning a livelihood. In essence, denials should have a greater control over their own destiny than the allowances.

However, the question arises as to the likelihood of a strain toward dependency among those with chronic disabling diseases, whether their support is primarily through agency assistance or through informal family and personal assistance. In measuring the extent to which self-help mechanisms are employed by a person with a disability, the problem is one of ascertaining the reasons why such a person avails himself of the opportunities present, if any, and applies his initiative to this end. This self-directed effort may aid the individual in ameliorating the conditions and in modifying the situation under which he operates but the strain toward dependency may persist.

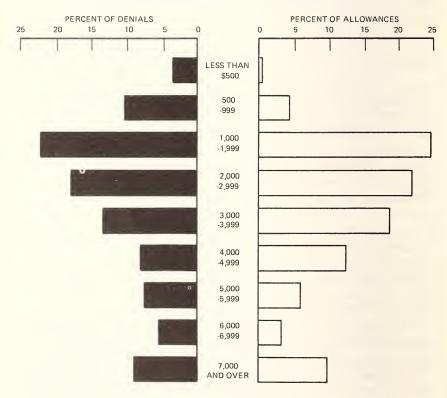
Dependence is not necessarily associated with formal agency support and independence with the absence of such support. Reliance on family and personal assistance may indicate a lack of independence as well. The *modus vivendi* of the individual may be less apparent. Indeed, this may only indicate that the individual has no other means of support available to him. Lacking other alternatives, the strain imposed on himself and on others in this

social setting may result in a further deterioration of an otherwise stable situation.

An assessment of the economic status and the means of support of denied and allowed disability applicants will provide some evidence as to the level of economic independence achieved and maintained since the onset of disease. The economic factors on which information was obtained included current income level, number and source of incomes, main source of support, and total cash assets. The source of such information is the interview schedule.

The sample's average gross annual income from all sources was \$3,322 (table 4.10). The modal income category was in the range of \$1,000-\$2,000, constituting a little under one-fourth of the sample; and this characteristic was approximately the same in each study group. Allowances as a group had a higher income than denials: average incomes of \$3,382 and \$3,253, respectively. Income information was not obtainable from 116 subjects (7.8 per-

LEVELS OF ANNUAL INCOME



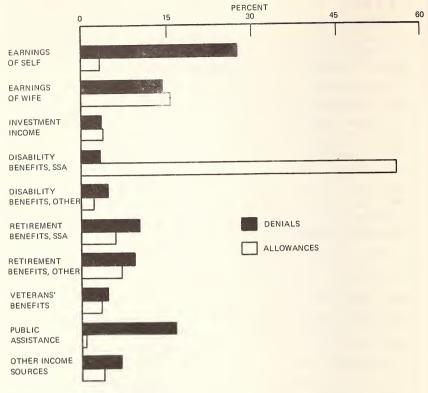
Source: Table 4.10

cent), either because of refusal to divulge it or because the subject or his proxy did not know it. If this bias favored higher-income subjects, the result would lead to an underestimate of the average income; if it favored lower-income subjects, an overestimate of the average income would result. Information was not available to ascertain the direction of underrepresentation.

Eligibility for disability benefits is not a function of income level. All contributors to social security insurance are technically eligible for disability compensation provided they meet the criteria of evaluation standards. Those who submit a claim may be from any income stratum. The income distribution of this study sample may indicate, however, that those who apply are more likely to come from the lower income levels on the assumption that economic insecurity or marginality creates a situation in which the individual is more inclined to seek income support given the event of disability. Disabled persons in a more favorable economic situation may be less inclined to seek such support, or do so only after the severity of the disability has imposed additional limitations on the individual's ability to maintain economic viability. Furthermore, applicants with low income and assets are likely to maintain this status quo over time partly as a result of the impact of the chronic disabling condition and partly as a result of economic impoverishment. This line of reasoning seems more applicable to the allowance group since they have a severe disease disability which, in turn, imposes restrictions on their ability to engage in economic activity. However, the denials may be in a similar situation even though the severity of disability is presumed to be less. This may be the result of economic impoverishment primarily, but also of the progressive nature of disabling chronic diseases.

The main source of income for a majority (55.7 percent) of allowed beneficiary applicants was social security disability payments (table 4.11). The second most important source (15.6 percent) was the wife's earnings. Allowances who had reached age 65 had been transferred from the disability rolls to the retirement rolls. Also, a number of beneficiaries could have elected to receive retirement benefits at an earlier age. Close to 6 percent of the allowances reported their main source of income as social security retirement benefits. An additional 7 percent listed other public and private retirement pensions as the main source of income. Interestingly enough, a little over 3 percent of the allowed beneficiaries had listed their own earnings as the main source of support. This would imply that a number of allowed applicants had returned to an active working role and might not have been receiving social security benefits at that time. It is possible also that some individuals who were currently receiving disability benefits judged that

MAIN SOURCE OF INCOME, DENIALS AND ALLOWANCES



Source: Table 4.11

their own limited income from earnings constituted their main source although, in fact, the benefits were. A felt need to accent one's own efforts toward economic independence may underlie this answer.

Among the denials, 27.6 percent listed their own earnings as the main source of economic support and an additional 14.3 percent considered the spouse's earnings as the main source. The two study groups were similar in the proportion supported by the spouse. Public assistance was regarded by 16.5 percent of the denials as the primary source, whereas less than 1 percent of the allowances so regarded it. Close to 20 percent of the denial group reported that retirement benefits from social security and other programs constituted the main source of income. Twenty-one of the denial respondents (3.2 percent) indicated that social security disability benefits were their primary source of income. These could be persons who had been denied upon first application and hence were entered in the study as denials, but who had since reapplied and were allowed.

The major income sources named by allowances were disability benefits and income earned by the spouse; for denials, major sources were income earned by the spouse and by the individual, and public assistance. Although in each case these sources were reported as the main source of income, many study members derived some of their income from other sources. As shown in table 4.12, an average of 2.3 sources of income was reported for the total sample, allowances reporting slightly more than denials (averages of 2.5 and 2.1, respectively). Over twice as many denials, proportionately, had but one source of income. It appears that more denied applicants relied on their own earnings, their spouses' earnings, or income from public assistance, as their sole means of support. About 51 percent of the allowed beneficiaries reported that their income came from three or more sources, whereas only 25 percent of the denials reported that many different sources.

If income level is held constant, it becomes quite apparent that denials derived their main income from a different source than allowances. For denials in the less-than-\$2,000 annual income bracket, the main income source was public assistance, followed by social security retirement benefits (table 4.13). Allowances in this bracket relied almost exclusively on social security disability benefits. As the level of total annual income rose, denials relied more heavily on earned income—their own and their spouse's. Retirement benefits, rather than public assistance funds, became the second major source. With the rise in income level, an increasing proportion of allowances relied on a wife's income or on retirement benefits as their major source of support.

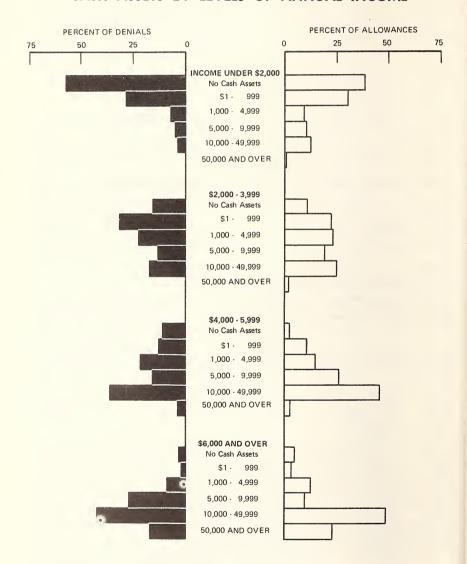
Individuals with low incomes tended to have very few sources for support. The alternatives available to the applicants were limited because of age, disablement, lack of job skill or education, or a combination thereof. The direct association between income level and number of income sources is substantiated by the data shown in table 4.14. The number of denials and allowances with only one income source tended to concentrate at the lowest income bracket, those with increased number of sources falling in the higher income categories.

Data in table 4.14 also show that, overall, allowances had a slightly higher average income than denials. However, as the number of income sources diminished, the averages for allowances sank below those for denials. Low-income allowances tended to rely on one major source (disability benefits) while denials tended to have diverse income sources. In either situation, however, the level of economic support was very marginal.

An individual's total cash asset value is the reported amount that would be at his disposal if he converted his tangible capital, including savings, into cash. This figure represents the individual's level of economic solvency. To the extent that he is able to maintain solvency, he is in a position to use his income for current needs. The lower the income, the fewer the assets and hence the more precarious the economic status of the individual.

There is a direct relationship between annual income and total cash assets (table 4.15). In the total sample, 48.5 percent of those

CASH ASSETS BY LEVELS OF ANNUAL INCOME



Source: Table 4.15

with incomes less than \$2,000 had no reported assets, while an additional 29 percent had convertible capital of under \$1,000. At the other extreme, 65.4 percent of those individuals with incomes of \$6,000 or more had cash assets of \$10,000 or more.

The proportional increase in cash asset value with each rise in income level was less pronounced for the denials in comparison with the allowances. That is, 85.3 percent of the low-income denials had a total cash asset value of less than \$1,000, while 60 percent of the high-income subjects had assets of \$10,000 or more. In the allowance group, these proportions were 68.2 percent and 71.3 percent, respectively. Within each income level allowances were in a more favorable economic position, as indicated by the greater proportions in the high cash asset categories. A striking feature of this table is that almost 30 percent of the denials and 16.4 percent of the allowances reported no cash assets. Those with less than \$1.000 in total cash assets constituted a majority among denials— 52.3 percent—in contrast to 36.5 percent for allowances. The economic status of denials, as compared to that of allowances, was more insecure and such individuals were more likely susceptible to the vicissitudes of the economic marketplace.

For each initial primary disease group, proportionately more denials than allowances were represented in the lower income levels (table 4.16). This pattern is most pronounced in the lowest income brackets. In the income brackets above \$4,000, both denials and allowances tended to have similar proportions although denials had a high proportion within the circulatory disease group and, within the respiratory disease group, allowances had a somewhat higher proportion than denials. Proportionately higher income levels were characteristic of the circulatory and nervous disease groups, in contrast to respiratory and musculo-skeletal disease groups; this observation held for both denials and allowances.

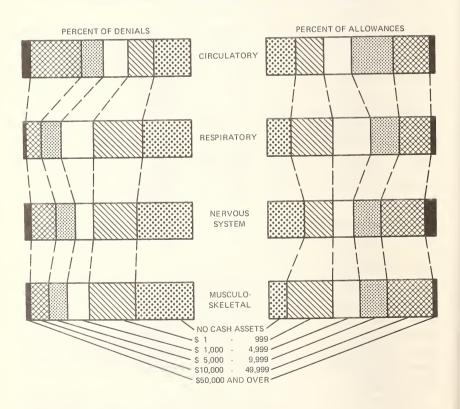
The differentials by economic status for each of the primary disease groups can be more readily discerned by using total cash assets as an index, instead of annual income. The circulatory disease group had the highest economic status, based on the average cash asset value: \$13,420 (table 4.17). The respiratory and musculoskeletal disease groups were lowest at \$7,790 and \$7,873, respectively. Whether income level or total cash assets was used as a measure, both circulatory and nervous disease groups had higher income levels than those with respiratory and musculoskeletal diseases. This pattern was the same for both the denial and allowance samples.

Although denials as a group had a lower average cash asset value than allowances, there were some marked differences within

each of the disease group categories. Among applicants with circulatory diseases, denials had a slightly higher average asset value than allowances. Although the nervous disease group ranked only second in total cash value for the combined sample, the allowances in that disease group had the highest average cash assets; and the difference between their average and that of the denials was quite marked. The differences in average cash value between allowances and denials in the respiratory and musculoskeletal groups were also large, and in the same direction.

The data on post-onset economic status of denied disability applicants revealed certain similarities and differences in comparison with those allowed benefits. The average income level was about the same in each group and this level was quite low. Although denied applicants as a group tended to rely on a greater variety of income sources for their main support, many did so to the exclusion of alternative sources. A high proportion of allowed appli-

CASH ASSETS BY PRIMARY DIAGNOSIS



Source: Table 4.17

cants relied on their disability benefits as a main source of income but tended to have other sources of income as well. Those with support primarily from one source, however, had lower average incomes in both disability groups. As would be expected, those with higher incomes appeared to have a greater level of independence, as indicated by earned income for denials, and by more varied income sources (such as spouse's earnings, and disability and retirement benefits) for allowances. This refers only to the economic status of those in lower income levels, whose pool of economic resources was more limited. In general, both disability groups appeared to be economically dependent given their limited resources. Each disability group may be characterized by low income, limited assets, and somewhat restricted sources of economic support. In this respect the groups are more similar than different. There is a strain toward dependency in both groups.

PRE- AND POST-ONSET SOCIOECONOMIC CHANGE

The preceding section was concerned with the present economic status of denied and allowed applicants. The comparisons made between the two groups on the economic status variables did not provide information on the relative social and economic changes each group may have experienced since the onset of disability. Detailed information with respect to each applicant's economic status prior to the onset of disability was not available nor could such information be readily obtained by means of a retrospective review of these factors at the time of the followup interview. Therefore, a more general and indirect approach was devised. A means of measuring change in socioeconomic status (SES) beyond the specific economic base was possible from data abstracted from the interview schedule and from data available from agency records. This alternative approach is discussed and the findings are presented in this section.

A measure of change in life style over time may be obtained by comparing the socioeconomic status of the individual at two points

¹ Higgins and Pooler observed in their followup of myocardial infarction subjects with respect to returning to work that the workers who were more "borderline" economically were least able to afford to remain out of work and this in turn imposed an additional hardship on their attempts to make a successful adjustment. As the authors point out, "Their positions are worsened and they have little in terms of resources to cope with their added burdens. Their disease, in this sense, pushes them into the ranks of the totally dependent." A. C. Higgins and W. S. Pooler, "Myocardial Infarction and Subsequent Reemployment in Syracuse, New York," American Journal of Public Health, 58:321 (February) 1968.

in time.² Changes in the social and economic status of the disabled person may be viewed as a measure of the effects of disability on his style of living. That is, if a disabling disease condition, and the level of severity associated with it, has no effect on the individual's ability to maintain his usual pattern of livelihood, no change would be expected in the socioeconomic status after onset. However, it is usually expected that the effects of a disabling condition would have consequences for the individual beyond those of pathological change and residual impairment. In fact, an applicant's claim of being disabled is contingent upon an abrupt change in his activities—an inability to engage in substantial gainful activity. It is possible, however, that the socioeconomic status could remain the same if any and all losses of support due to the disabling condition are compensated by support from others.

In general, one would expect some change in the socioeconomic status of the individual and the degree of change may reflect the relative impact of the disabling condition on the individual's style of living. If the change results in a higher socioeconomic status, the effect of the disability would appear to indicate a favorable response to the situation insofar as one's life style has improved. If the change results in a lower socioeconomic status, the effect of disability would appear to be deleterious to one's life style. No change in status may indicate an adequate response and adjustment to the situation to the extent that compensatory action results in maintaining the status quo. Obviously, a measure of status change is a summary indicator and does not account for all the parameters specific to disability behavior. It does, however, furnish the investigator with a tool to measure overall change in the life styles of individuals.

One commonly used measure of socioeconomic status is the economic characteristic of current residence, using census tract data. Residence is given the status attribute of the census tract within which it is located.³ To obtain this measure, the weighted median monthly rental value for each census tract was used. The rank order distribution of these rental values was grouped into deciles, using the white population of the census tracts. The socioeconomic

3 The method employed is necessary in order to assign a socioeconomic status attribute to the residence location, since no other characteristic of the

² This is the common approach employed in measuring change. Although not the classic panel study approach, in which repeated measures are obtained in a prospective manner, the retrospective "panel" approach does yield a measure of net change when comparisons are made between two groups using the same variable and means of measurement at two points in time. For a general discussion of the rationale in measuring net change, see "Survey Design and Analysis in Sociology," Survey Research in the Social Sciences, C. Y. Glock, ed. (New York: Russell Sage Foundation, 1967), pp. 53-55.

tenth of the subject's residence location was obtained for both the pre- and post-onset periods. The time interval between the two periods varied within each study sample because of the manner in which the sample was selected.

The socioeconomic status distribution for each study group within each period is shown in table 4.18. The socioeconomic tenths have been grouped into quintiles. Within the pre-onset period, the status distribution of denials was fairly similar to that shown for allowances, although there were higher proportions in the two lowest levels among denials than among allowances. In this period the average socioeconomic rank for denials was 2.3, while that for allowances was 2.5; this difference was statistically significant.

The post-onset status distribution for each study group revealed only a slight change and, for each, it was in an upward direction. This is shown in the socioeconomic status means, presented in table 4.19. The difference between the denial and allowance status means was statistically significant in the post-onset phase and the direction was the same as in the pre-onset phase. However, viewed in terms of changes in socioeconomic status over time, there was an obvious lack of change for these groups, as measured by the socioeconomic level of residence location at two points in time. That is, each group appeared to maintain their same status over time. The measured degree of change for each study group is shown at the bottom of the test of means table (table 4.19). The mean difference between the pre- and post-onset periods for denials was -.08 and for the allowances it was -.03, and these mean differences were not significantly different. Neither group experienced a major shift in socioeconomic status over time and the net change that did occur within each group was insufficient to warrant an interpretation of a meaningful divergence between them.

This finding may be interpreted in a number of ways. Based on current income level, denied and allowed applicants were not very different. If one infers a similar relationship existed at the pre-on-set period, little net change would be observed. On the other hand, residence location as a measure of socioeconomic status may not be

residence is available for this purpose. An address, even with the assigned census tract designation, does not permit one to rank it within some operationally defined socioeconomic scale. However, a scale developed on the basis of census tract data, such as median monthly rental value, does permit one to assign a status attribute to a residence in the census tract. This is at least one step removed from the "true" socioeconomic status characteristic of the residence that presumably could be obtained if one had the desired residence information on each study member. This would obviate the need to use the indirect method.

a very sensitive indicator of the impact of disability on the lives of individuals. Significant changes can occur in the pattern of living for individuals who must cope with, and adjust to, a major disability. These changes may affect their occupational niche, their role as breadwinner and family head, and their ability to maintain other activities that are commensurate with their previous position. However much the individual's life style may be affected by a disabling disease, he may still retain the same place of abode. For some persons, their home would constitute a bastion of security and hence they would relinquish it only as a last resort.

Another less direct, and somewhat unorthodox, approach to measuring possible change in life styles in each study group may be considered at this juncture. One can compare the degree of similarity between denials and allowances on each of a number of socioeconomic characteristics at different points in time. The degree of similarity observed between the two groups at one point in time may be contrasted with the degree of similarity or dissimilarity between the groups at a subsequent point in time. Any change in these socioeconomic characteristics may inferentially indicate a comparative shift in life styles between the groups over time. This may be viewed as an indirect measure, in part, of the effects of their respective disability status.

The notion of change in social status is based on the assumption that each of the variables selected relates to socioeconomic status. The variables used in this approach include the pre-onset characteristics of education and occupational status (last full-time job prior to the onset of disability), and the post-onset characteristics of socioeconomic tenth of residence and annual income at the time of followup. A standardized scoring procedure was devised for each variable in order to assign a scale score to each study member. The variable was rank-ordered from low to high, using the total sample. Scale scores were derived from the cumulative percent distribution by taking the midpoint value of the percent range for each category designated by the variable. The scale scores and categories used for each variable are shown in appendix C.

The findings of this approach to the comparative analysis of denials and allowances on these socioeconomic characteristics are presented in terms of the standard score averages (table 4.20). In the pre-onset phase, the two applicant groups were quite similar on the measured socioeconomic characteristics of occupation and education. This is reflected in the average scores, which were not significantly different from one another on either variable. In this respect, denials and allowances tend to be relatively homogeneous

in composition. In the post-onset phase, each of the variables indicated a greater degree of dissimilarity between denials and allowances. It had been previously shown, however, that the disparity between the two study groups on the socioeconomic tenth residence variable existed in the pre-onset as well as the post-onset phase (see table 4.19). Moreover, the direction of the difference and the significance of the difference remained essentially the same. although the method of measurement was different. However, this variable was presented in the post-onset phase of the analysis to highlight the level of dissimilarity that obtained between the two groups; and this level of disparity or divergence was consistent with the difference observed on the income variable. There was a significant difference between the average scores on income in the comparison of denials and allowances, and the direction was the same as that observed for the other post-onset socioeconomic variable.

The general pattern of the relationships between the denials and allowances with respect to socioeconomic characteristics was that the denials tended to have a lower socioeconomic level, on the average. Secondly, there appeared to be a widening divergence in socioeconomic levels between the groups with the passage of time. The question is whether the relationship that obtained was one indicating a directional change in socioeconomic levels between the two groups over time, and hence in some temporal way indicated the effects of disability status, or whether it was merely an indication of the relative status of each group at the two time points. A definitive answer cannot be given, partly because of the discrete measures employed at each time interval and partly because of the indirectness of the approach in relating the consequences of disability with changes in life styles. Nonetheless, an interpretation of the findings can be offered.

The evidence does seem to show that the denied disability applicant group ranks lower on the social class scale, in general. If this is a valid observation, it seems reasonable to presume that the relative position of this group would not be greatly improved over time, considering their available resources. Although denials had been initially ineligible for benefits primarily because their disabling conditions were less severe, this in no way negates the notion that a chronic disabling condition places some restrictions on those seeking to maintain a level of living already characterized as marginal and limited in economic resources. If this notion is true, the relative socioeconomic level of denials vis-a-vis allowances would be expected to decrease over time. Allowances, on the other hand, are receiving some income-support to insure a level of living similar to that held before the onset of disability.

Hence, the allowances stand in a better economic position when contrasted with denials, although the severity of disability may in fact be greater.

The other argument is more difficult to support. This implies that the relationship between denials and allowances remained relatively static over time. The only indirect evidence of this observation is the absence of a net change in socioeconomic status measured by residence, between the two groups. Even so, denials appeared to be in a less advantageous position in society than allowances, and this disadvantage held over time. However, on another socioeconomic characteristic—income as an economic resource—denials appeared to be in a more unfavorable position than allowances. This may be a more sensitive indicator than residence as to the possible effects of disability on life styles. If so, the marked dissimilarity observed may very well indicate that denials with limited income, lacking sufficient assets to absorb an income loss due to even a mild disability, and without adequate work skills or education to make a favorable adjustment, find themselves in a worsening situation.

Chapter 5

WORK HISTORY AND OCCUPATIONAL STATUS

THERE IS REASON TO EXPECT MARKED DIFFERENCES in work patterns between denials and allowances following onset of disability. A major characteristic of allowed applicants is that the disability for which they received income-support compensation had brought about an abrupt change in their ability to support themselves. On the other hand, the denied group constitutes those who were not sufficiently disabled at the time to warrant compensation, in that they were presumed able to engage in gainful work activity. An important aspect of the program's evaluation is ascertaining the extent to which members of each group were able to return to work following the onset of disability, and examining those patterns of work activity with reference to other current health characteristics of the groups.

One of the aims of this study is to determine the ability of disability applicants to work following the onset of disability, and to discern possible factors that influence this return-to-work pattern. This chapter is a report of the findings. The major aspects of this analysis include: (1) the pattern of work prior to and during the disability phase, (2) work status and occupational shifts following the onset of disability, and (3) applicants' characteristics that are associated with work and disability status subsequent to the onset of disability.

There may be a differential pattern of returning to work for the various occupational strata. A lack of difference between the strata would indicate that all occupations show approximately the same degree of success in post-onset activity, although these patterns may vary for each of the two disability groups. If differences by occupational class occur, this may be due in part to the varying skills and tasks associated with work roles, and these may be a determinant in returning to work. The greater the flexibility in work roles, the greater the likelihood of disabled persons adapting to the demands of employment. However, highly skilled workers may find greater restriction in job placement, rather than

flexibility, as a result of increased specialization. Even so, from the perspective of labor market demands, the need for higher level skilled workers could result in a more open job market for these individuals and therefore the job requirements might be modified to accommodate these workers in scarce supply. These occupational skill and job requirement factors, in turn, are contingent to a great extent upon the level of functional ability possessed by workers following the onset of disability. Thus, the pattern of work adjustment observed for social security applicants, classified by disability status, includes individual attributes and socioeconomic factors, as well as situational concomitants. The findings presented in this report focus on the former set of variables rather than the situational components.

WORK PATTERNS

During the preceding 10-year period, denials as a group held an average of 2.3 jobs, while allowances averaged 1.7 jobs (table 5.1). Proportionately more denials than allowances held two or more jobs, and this was consistent for each job-frequency category. A majority (63 percent) of the allowance group held only one job during the 10-year period, in contrast to 42 percent of the denials. A similar pattern was observed in the number of different occupations pursued during the same period of time. In general, there was about one-third greater job mobility among denials than among allowances, using the average number of jobs held in each group as a basis for computing this estimate.

Part of the difference may have been due to the time period covered, which was selected to include work experience after onset. It may be more likely that denials, being without income support, would seek employment following the onset of disability. while persons allowed compensation would not so actively seek employment. These data may, on the other hand, indicate that denials in general were more mobile with respect to jobs (and occupations). However, it appears from evidence to be presented later that denials were somewhat more prone to job turnover before the onset of disease, as well as being more likely to retain or obtain a job subsequent to their disability onset. The job turnover rate is an important fact in the pattern of job stability shown in the pre-onset work histories of denied and allowed applicants: the incidence of subsequent employment lends substance to the expectation of the evaluators that denied applicants were still able to work following the onset of disability.

Job mobility may be indicative of job insecurity, if for no other reason than that job seniority depends on job tenure. Denials may

have been more likely, therefore, to obtain or retain jobs that were inadequate to their needs, especially after the onset of disease. In fact, a denied disability applicant would have had a more marginal job status because of the handicap of earlier job instability. This pattern of marginality would further the strain toward dependency.

Denials were not markedly different from allowances with respect to occupational class of the job held prior to the onset of disease (table 5.2). There was a greater proportion of white-collar workers among allowances (26.9 percent) than among denials (22.7 percent), and a smaller proportion of laborers (5.7 percent and 8.5 percent, respectively). Blue-collar workers (craftsmen, foremen, and operatives) and service workers were closely proportional in the two groups. However, the direction of proportional shift in comparing the two distributions did lend support to the notion of less job stability prior to onset among denials, since this group contained a higher proportion of workers in occupations traditionally defined as having lower levels of skills, and hence less security.

Prior to onset, denials tended to hold jobs for shorter durations than allowances. About 60 percent of denials held their job for 6 or more years, in contrast to 70 percent of the allowances (table 5.3). However, the overall average number of years denials held their jobs was not much below the average for allowances: 5.1 years and 5.5 years, respectively. The average job duration differed somewhat depending on the occupational class of worker. The lowest average number of years a job was held occurred in the service worker group, 3.7 years, and the averages for both study groups were similar. The other occupational classes had rather uniform average durations of slightly over 5 years, with the exception of the laborers among the denials, who had an average duration of 4.6 years. Laborers in the allowance group had an average of 5.9 years. The fact that denials held their pre-onset jobs for shorter durations than the allowances was consistently found also for each of the occupational classes. In fact, the pre-onset work pattern of denied disability applicants, in contrast to that of allowed applicants, may be characterized as showing greater job instability through the higher number of jobs held, the shorter average duration of the job, and the higher proportion of unskilled workers. This pre-onset pattern of work experience for the denials may adversely affect their post-onset work and occupational status. The influence of these factors can be measured by the data on job status and occupational changes after the onset of disability.

OCCUPATIONAL CHANGES FOLLOWING DISABILITY

A means of assessing the outcome of the social security disability program's evaluation of applicants is to compare the post-onset job and occupational status of those denied and of those allowed disability compensation. Presumably, those that are least disabled would tend to return to work without any marked shift in occupational status. On the other hand, those most severely disabled would be the least likely to return to work; among those who do return, a greater change in occupational status would probably occur as a result of the need to adapt the job to physical capabilities. In some cases, the severely disabled may experience little change in the kind of work performed but rather experience a reduction is the amount of work. This may indicate that the few who do return to work do so under favorable job circumstances and hence undergo little occupational change.

One would expect that those least disabled would be the best candidates for rehabilitation. If so, the general outcome of this service could be measured in terms of their greater success in returning to work. Similarly, those least able to engage in work activity following onset would be expected to profit less from vocational rehabilitation services and, hence, their work status would not be greatly affected by such services. At both ends of the disability continuum, rehabilitation services are unlikely to be provided—either because of minimal disablement, or because of the extent of disability. The broad group falling between these two extremes would likely be differentially affected by physical and vocational rehabilitation services. The diagram below illustrates the possible patterns that may occur, as well as the sequence of events and the effects of these factors on post-onset work status of disability applicants.

DISABILITY AT ONSE CONTINUUM	T Least Disabled		Most Disabled
REHABILITATION SERVICES			
Physical Vocational	Not applied Not applied	Applied Applied	Not applied (?)
Potential effects on outcome	l x	High Low	x
POST-ONSET WORK STATUS	(Work)	Work Not Work	(Not Work)

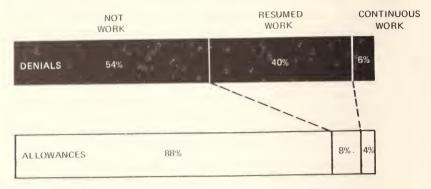
The majority of applicants (71.9 percent) in this study did not return to work following the onset of disease (table 5.4). The remaining applicants were classified on the basis of their having

returned to work or having continued working through the period of onset; a post-onset work period is defined as 1 month or more of regular work. As would be expected, a greater proportion of allowed applicants (88 percent) failed to return to work after onset, although a relatively high percentage (54 percent) of denied applicants, also, did not return. Forty percent of the denials resumed work after the disability onset date but only a little over 6 percent had continued working through this onset period. In contrast, proportionately few of the allowed subjects returned to work (8.3 percent) and only about 4 percent had continued working after the onset of disability. It must be pointed out that in this analysis an individual's post-onset work status was not directly related to the program's disability determination, but only to what had occurred with respect to work following the disease onset date. In this analysis, the applicant's disability status is a control variable.

The post-onset work status of disability applicants may be influenced by their occupation prior to the onset of disease (table 5.4). An interesting pattern emerges. The less skilled the occupation, the greater the proportion of workers who did not return to work. This relationship was observed for both study groups although the magnitude of change was greater for denials than for allowances. The proportion of white-collar workers who did not return to work was lower than that of any other occupational group. Service workers and laborers had the highest proportions. An intermediate percentage applied to the blue-collar workers. This finding. observed in both study groups, may be related to the greater job insecurity and labor-market vicissitudes that are associated with the less-skilled occupations. Consequently, those workers occupying more marginal jobs prior to the onset of disease find greater difficulty in obtaining work after onset. The opportunities for changing jobs, as well as shifts in occupation, are likely to be restricted for workers who possessed only marginal job qualities initially, and who subsequently acquired the added detriment of a disabling disease—regardless of the severity of the disease or the limitations imposed as a result of it. The influence of severity of the disability is suggested in the greater proportion of service workers and laborers among allowances not returning to work after onset, as compared to those among denials. In addition, the age and educational level attained by these occupational groups

¹ In a national survey of disabled beneficiaries, conducted in 1960, it was observed that approximately 16-17 percent of all disabled workers experienced some employment after their withdrawal from regular employment. In general, the proportion of severely disabled beneficiaries who return to work—under any conditions—appears to be quite low. Lawrence D. Haber, *The Disabled Worker Under OASDI*, Social Security Administration, Research Report No. 6 (Washington: U.S. Government Printing Office, 1964), table 4.2.

POST-ONSET WORK STATUS



Source: Table 5.4

would further limit the choices available to them in the job market.

A high proportion (64 percent) of the applicants who did resume or continue work following the onset of disability stayed in the same line of work (table 5.5). This continuity in the same line of work was more characteristic of allowances than denials. Among allowances who returned to work, approximately 75 percent remained in the same occupational class as before and, among denials, 60 percent continued in their same line of work.

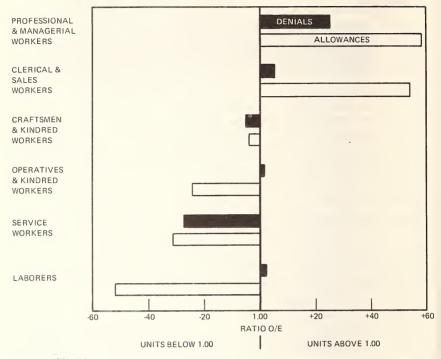
Occupational shifts occurred most frequently among laborers who were denied disability (65 percent), and least often among clerical and sales workers who were allowed disability compensation (11 percent). In each occupational class, more denials than allowances shifted to different lines of work, with the exception of service workers, where proportions were nearly the same. It should be borne in mind, however, that the number of allowed applicants returning to work constituted a small proportion (12 percent) of the total group, and was subject to wider sampling fluctuations percentagewise when occupational class of workers was taken into account. Nevertheless, it is interesting to speculate as to the reasons for this pattern between the two study groups. It may well be an indication of the extent of vocational rehabilitation services provided to allowed disability applicants, who by the disability program's criteria are adjudged in need of such services. Hence, there may be a greater focal effort and intensive work-up specific to the work needs of allowed applicants possessing the potential for job placement, while denied applicants, lacking the legitimizing label of "disabled," fail to receive the services needed to make a successful adjustment. In a sense, this may imply a hidden or invisible handicap attributed to denials as a result of the Social Security Administration's evaluation of their disability status.

The direction of occupational change is a measure of the type of change experienced by those who had returned to work. Estimates of movement up or down the occupational scale were based on the class of position held by each applicant before and after the onset of disability. The matrix resulting from this cross-tabulation of pre- and post-onset work status, by occupational class, allowed for the classification of workers into three groups: those who moved downward occupationally, those who moved upward, and those who had no change in occupational status. Among applicants who returned to work, 23 percent experienced a downward shift in occupational status (table 5.6) by accepting a job of lower occupational status than that held previously. A greater proportion of denied applicants than allowed applicants had this experience: 25 percent and 16 percent, respectively. It was further apparent from the data in the table that more denials moved upward (15 percent) than did allowances (9 percent). In general, the rate of occupational change was greater for denied applicants than for the allowed, and this may be readily deduced by comparing the percentage of "no change" in each group.

Although comparatively more disability applicants of upper occupational status returned to work following the onset of disease, more of these tended to stay in the same line of work as before than those in the lower occupational strata. The highest proportions of occupational change occurred in the operatives and laborers groups, likely accounting for most of the change observed in both study groups. Applicants in the operatives group apparently shifted in both directions, by turning to clerical and sales jobs as well as to service and laborer occupations. Laborers could only move upward on the scale if they entered a different line of work.

To obtain a measurement of the relative rate of success in returning to work, by occupational class, the ratio of observed to expected numbers was obtained for each occupational group for each study sample. The number of applicants expected to return to work, for each occupational group, was computed by using the pre-onset occupational status percentage distribution of the total sample, and distributing the total number of subjects returning to work by this percent distribution. A ratio of 1.00 indicates that the observed number returning to work in a particular occupational class is what would be expected, given that group's pre-onset occupational proportion in the study population. If chance factors operate throughout the occupational class distribution, all ratios would approximate 1.00.

POST-ONSET OCCUPATIONAL STATUS AMONG APPLICANTS WITH WORK EXPERIENCE



Source: Table 5.7

One would expect that those in a more favorable position in the occupational structure would have a better success rate in obtaining work following disability. An individual occupying such a position tends to have greater control over his work environment and is likely to have the opportunity to manipulate his work situation to accommodate changes in his ability to work. This notion seems to be borne out by the findings. In the total study group, greater than expected numbers of applicants in white-collar occupations returned to work, while those in blue-collar jobs conformed to expectation, and service workers and laborers fell below (table 5.7). This pattern was more striking for allowances than for denials. In the former group, operatives and kindred workers tended to fall below the expected number, having a ratio of .76, while all other occupational groups among allowances fitted the pattern. Among denials, the trend was less obvious especially in the lower occupational groups. It appeared that among denials each occupational group tended to have about the same chance of success with the exceptions noted above. Allowances tended to have a differential chance of success in returning to work depending on their pre-onset occupational status, given their functional capacity to engage in work.

WORK AND DISABILITY

From the interview data, the relationship between health characteristics and post-onset employment can be ascertained in the two study groups. The health characteristics considered were: initial primary diagnosis, current illness and health problems (including chronic conditions), conditions that interfere with the ability to work, and level of mobility and activity, as well as age at onset of disease and the interval of time between disability evaluation and followup. These characteristics may be differentially related to each group's post-onset work experience.

Age at onset of disease was related to post-onset employment. Those who experienced onset at an older age tended to remain out of the labor force (table 5.8). For those who did not return to work, the average age at onset was almost 54 years; while those who returned to work had, on the average, experienced disease onset at the younger age of 49 years. In the relatively small group of applicants who continued to work after onset, the average age at disease onset was close to that of the non-returnees: 53 years. These findings were not unexpected. Severity and chronicity of disease increases with age and, therefore, those experiencing a later onset of disease would likely be at greater risk of being unable to engage in major life activities such as work.

The relationship of post-onset employment to age at onset of disease was reflected similarly in the two study groups. The major difference between them was that the denied group was younger, on the average, at the time of onset: 51.3 years, compared to 54 years. Overall, the two groups were remarkably similar in the age distribution of members who did not return to work, those who resumed work, and those who continued to work following the onset of disability.

In both the denied and allowed groups, the highest proportions returning to work were among those with circulatory and musculoskeletal disease (table 5.9). This would seem to indicate that the severity of disability from these diseases may be less than from the other disease entities. However, in all disease categories, the smaller proportion of allowances resuming work, as compared with denied subjects, was likely an indication of generally greater disease severity in persons allowed disability compensation. Therefore, a supposition of similarity in disease status and severity between allowed and denied subjects who returned to work is not fully borne out by the evidence.

Another factor that may play a role in the level of work status achieved in each disability group is the relative lapse of time between disability evaluation and study followup. In general, one might expect that the longer the time from evaluation to study, the greater the likelihood of post-onset adjustment and development of work potential. A further conditioning effect on this expectation is the disability status of the individual at the time of determination. That is, the chance of success in returning to work would be greater for those denied than those allowed disability compensation. One would expect a linear increase in the proportions returning to work, commencing with most recent onset subjects and extending on through to those with the earliest onset, and this relationship would be most marked for denials; for allowances it would be minimal or even static.

The general hypothesis is not fully substantiated by the evidence. The findings show a tendency for denials to return to work in greater proportion after an increased lapse of time, but this occurred only in a comparison between time period 1 (recent onsets) and time period 2 (an average interval of 2 years). (See table 5.10.) One might term this the "rebound effect." For the cohort of denied applicants that were followed the longest period of time (time period 4), there was a noticeable trend toward disease remissions among subjects, similar to the post-onset work status of the most recent onsets. This may be termed the "remission effect." No such pattern was evident in the allowance group.

The observed rebound-remission pattern among denial cohorts may reflect the nature of physical recovery from disabling diseases. Recent onset subjects needed a period of time to recover before returning to work; hence, the proportion of returnees reported for this group was low. After a period apparently sufficient for recovery, the proportion of denials returning to work increased. Beyond this time, the likelihood of recovery diminished due to the progressive nature of the disease or to episodic or recurrent bouts, resulting in a decreased proportion of subjects being able to work.

In another study, Levenson and Green observed a similar pattern for disabled beneficiaries, even though the two sets of data are not very comparable.² In addition, these authors found that 35 percent of all allowed beneficiaries returned to work successfully, while the allowances in this study showed an aggregate percentage of only 12 percent. In fact, the most noticeable trend observed for allowed applicants in this study was a relative consistency in the proportions not returning to work in all the time intervals

² Barbara Levenson and Jerome Green, "Return to Work After Severe Disability," Journal of Chronic Diseases, Vol. 18 (1965), pp. 167-180.

studied. Almost 90 percent of allowances failed to resume any form of regular work following the disease onset and evaluation period. This may indicate that the severity of their disablement was very great at the time of determination, implying an element of delay on the part of applicants,³ and, therefore, the proportion in each cohort able to return to work remained relatively static over time. The rebound-remission effect would not occur under these circumstances.

In the study population as a whole, those who did not return to work tended to have a greater number of current health problems than those who worked following onset (table 5.11). The nonreturnees reported an average of two health conditions, and the returnees an average of about 1.7. This information was derived from individual self-assessments reported at the time of interview. It is possible that those who find it difficult to work, for whatever reason, seek to justify not working by rationalizations as to socially acceptable health limitations. Thus, there would be a likelihood of a heightened awareness of one's predicament and the consequent bias in reporting current health status. Aside from the possibility of this response bias, it is apparent from the data that there is a relationship between the number of health conditions a person has and the likelihood of his resumption of work following the onset of disease.

There is a fair degree of similarity between the two study groups with respect to this relationship. Denied disability applicants who did not return to work reported about the same number of health conditions as the allowed applicants: 2.0 and 2.1 averages, respectively. In both study groups, those who resumed or continued work indicated fewer health problems, with the exception of the allowed applicants who resumed work. The latter had the same number of conditions on the average as allowances who had not returned to work. Denied applicants averaged fewer health conditions at the time of followup than did allowances: 1.8 and 2.1, respectively.

Each individual who replied affirmatively to the question about the presence of health conditions was asked if the reported condition interfered with his ability to work. The results of this query are presented in table 5.12. The gradient in the average number of conditions that interfered with work ability is similar to that shown in the data using the number of current health conditions

³ In a study of applicants filing for disability benefits, it was found that about one-third delayed filing a claim until at least 1 year had elapsed after the onset of disability. Aaron Krute and Barbara Levenson, "Delayed Filing for Disability Benefits Under the Social Security Act," Social Security Bulletin, October 1964, pp. 15-24.

(table 5.11); that is, nonreturnees indicated a greater number of conditions that imposed limitations on work ability, on the average, than did those who engaged in work activity after disease onset. This pattern was similar in both study groups and, although the gradient was not surprising, the fact that the average frequencies were found to be alike according to post-onset work status categories was not expected.

One would have expected denied applicants to have markedly fewer conditions that interfered with work, since these persons had been rejected for compensation because of having the ability to engage in substantial gainful activity, regardless of the number of health conditions they may have had at that time. Among nonreturnees, the agreement in averages between denials and allowances is not too unexpected since denials could likely become quite similar to surviving allowances over time. However, one could reasonably expect a more marked difference between denied applicants who returned to work and allowances who also resumed work activity. Presumably, denial returnees would have had fewer such limitations than allowance returnees since the latter group would be more likely to have handicaps related to their ability to work. Some indication of this can be observed in the proportions of denied and allowed applicants who resumed work and reported no work-interfering conditions. About 21 percent of the denials who went back to work and 15 percent of the allowances who returned indicated that none of the conditions reported interfered with their work. Apart from this, denied and allowed applicants appeared to be quite similar in patterns of work status, as related to number of work-interfering conditions.

In contrast to the open-ended approach of asking about the subject's current health and illness problems (cf. table 5.11), a subsequent question related to specific chronic conditions. A standard list of chronic conditions was given to the subject and his response about each condition was recorded on the schedule by the interviewer. This procedure is the same as that used in the National Health Interview Survey. The purpose of this question was to obtain information specific to prevalent chronic conditions and to do so in a standard format.

In the total sample, an average of 3.7 current chronic conditions were reported by applicants (table 5.13). In comparison, only two current health conditions were reported by subjects when an open-ended or unstructured approach was used to elicit responses (cf. table 5.11). The difference relates to the intent of the question and the approach used in obtaining the information. One is likely to obtain a greater rate of response to direct stimuli than to a query involving only an initial stimulus without further specific

reinforcement. The frequency of affirmative responses to the question on current chronic conditions, in all categories, attests to this.

The highest average frequency of chronic conditions, 3.1, was associated with those who did not return to work (table 5.13). Among those who resumed work or continued work beyond the disease onset date, the average frequencies were lower (both 2.6). In general, denied disability applicants reported fewer chronic conditions than did allowances (2.7 and 3.2, respectively). Among nonreturnees, the rates were similar in that denials averaged fewer reported chronic conditions than allowances (2.9 and 3.2, respectively). In each group, returnees reported fewer chronic illnesses than nonreturnees.

In contrast to the data on current health conditions interfering with the subject's ability to work (table 5.12), the present findings show a definite differential between denials and allowances in rates of reported chronic conditions. In addition, the gradient by post-onset work status in each study group was in the expected direction with the exception of subjects who continued to work following onset. However, in this last category, the numbers were small and the average frequencies were not very dissimilar. It appears that the number of reported chronic conditions, as a measure of current health status, is related to post-onset work activity to a greater extent than is the number of health conditions interfering with work.

One other current health characteristic that presumably would be associated with work and disability status following the onset of disease is the functional capacity of applicants. This variable relates to an individual's level of independence as measured by the extent he can move about (mobility), and the extent to which he is able to perform certain everyday activities. The composite measure used in this study is termed the mobility-activity index. (The details with reference to this index, including the questions used in the interview schedule and the means of scoring the items to develop this index, are shown in appendix D.) The summary scores range from seven to 25, and the higher the score the greater the level of independence.

Three out of four disability applicants had index scores of 22 or above (table 5.11). It appears that if ability to move around and to perform activities are being accurately measured by this instrument, there is a relatively high degree of homogeneity among members of the two study groups. The mobility-activity index did differentiate denials from allowances to some extent, and this was in the expected direction. Denials had a higher average index score than allowances (23.5 and 21.3, respectively), and this pattern was consistent in all post-onset work activity categories.

Within each study group, however, the average index scores were about the same for all work activity categories. Thus, returnees were not markedly different in this respect from nonreturnees. Some degree of differentiation may be noted with respect to postonset work status. Based on percentage frequencies, denied applicants who resumed work tended to have higher mobility-activity index scores than those who did not return to work. For example, 93 percent of those in the former group had scores of 22 or above, while only 84 percent of the nonreturnees had scores in this upper range. The same pattern occurred among allowances although the percentages were lower.

In summary, disability applicants who returned to work were likely to have been younger in age at the time of disease onset and to have had as their disability a disease of the circulatory or musculoskeletal system. These characteristics were more evident in the denied group than in the allowed group. Furthermore, returnees reported fewer health problems and chronic conditions, as well as fewer conditions that interfered with their ability to work. With regard to the first two items, this pattern was more distinct in the denied group than in the allowance group. No distinction was observed between the two study groups with respect to conditions that resulted in work limitations. The level of functional capacity, as measured by the mobility-activity index, was higher among denied applicants than among allowances, but this measure failed to differentiate subjects according to their post-onset work status within each study group.

The rebound-remission effect in terms of post-onset work status occurred according to the lapse of time following onset. Recent onsets were proportionately less likely to have returned to work, while applicants who had disease onset about 2 years previously showed a greater chance of engaging in work activity (rebound effect); and those with the greatest time lapse since onset showed similarity to those with recent onsets, in terms of the proportion returning to work (remission effect). This pattern was observed for denials but not for allowances. Most of the allowed disability applicants failed to return to work following onset, irrespective of the time lapse.

Chapter 6

DISABILITY AND ILLNESS PATTERNS

THE HEALTH OF DISABILITY APPLICANTS following the onset of disability constitutes an important aspect of this evaluation study. The purpose of this analysis is to assess the relative status of denied applicants, in contrast to allowed applicants, on those modalities related to health and disability subsequent to the onset of disease. An effort was also made to determine the extent to which denied applicants are functionally more capable of engaging in normal activity, and therefore less impaired by disabling disease, than allowed applicants. This assessment is based on two sources of information: interview data and medical examinations. The interview furnished information with respect to the individual's own appraisal of his disability, and the medical examination provided data for an independent assessment. This chapter is a report of the findings on both aspects; in addition, it includes the findings of the reevaluation of the records of disability applicants by the Social Security Administration, and data on the extent to which applicants utilize medical and rehabilitative services.

SELF-APPRAISAL OF DISABILITY STATUS

Some of the indicators of health and disability of the study population have been discussed previously, in relation to post-on-set work experience rather than in terms of the illness and disability patterns of the two study groups. In this section, an overview of the findings with respect to self-appraised health status will be presented and discussed in the light of various known background factors associated with the applicant study population.

Among the applicants claiming to have at least one disease condition as of the time of interview, there was a variation in the number of conditions reported as interfering with ability to work. For those with only one condition, it was very likely that this one interfered with working ability (table 6.1). However, fully one-eighth (12.4 percent) indicated that their specific illness did not create work limitations. As might be expected, this proportion was

about three times higher among denials (19.5 percent) than among allowances (6.1 percent).

The number of conditions that interfered with work was apparently related to the number of conditions present. However, as the number of current conditions increased, fewer persons indicated all of them as interfering with work. In the group with three current conditions, the highest proportion reported only two as work-restricting. Denials appeared to impute greater handicap to their current conditions than did allowances, especially where there were multiple health conditions. For example, about 74 percent of the denied applicants with four or more current illnesses indicated that at least three of them interfered with their ability to work; among allowances with the same number of afflictions, only about 65 percent indicated this extent of work restriction. In general, denied and allowed applicants claimed about the same number of current illnesses and a relatively high proportion of each group maintained that these conditions caused work limitations.

Individuals were asked at the time of interview about their mobility status. The options for describing degree of ambulation ranged from bedfast to unlimited movement. The results of this question are presented in table 6.2. For the study group as a whole, 78 percent indicated that they had no mobility limitations. At the other extreme, 5.5 percent were confined to a chair or were bedridden. The remaining group of subjects were either confined indoors but able to move about, or were able to go outdoors but needed the assistance of another person or a device. Close to 9 out of 10 denials (88.5 percent) and slightly over two-thirds (68.7 percent) of the allowances were able to move about without any restriction. Thus, the majority of disability applicants were physically independent to the extent that they could move about on their own accord.

A relatively high proportion of allowed subjects were confined to a chair or to bed (8.8 percent), but less than 2 percent of the denial group were in this situation. About 20 percent of the allowances had only mild restriction, based on the need for an appliance or the assistance of another person, while only 9 percent of the denials were so situated. One would expect that the frequency and severity of mobility limitations would be greater among allowances than among denials; the data support this expectation.

Changes in mobility over time may indicate the pattern of disabling disease in the applicant population. In this study, it was possible to measure mobility of the individual at two points in time by using information on the subject's application and that obtained at the time of the followup interview. For all practical purposes, the two measures used are alike except for the category

"confined in medical institution". This was a separate category on the application form but, in the followup form, was subsumed under "confined to chair or bed" (i.e., irrespective of whether the person was confined in an institution or at home). The changes in mobility observed over time may indicate a relative improvement, maintenance of the status quo, or a general decline in health since the time of applying for disability.

As shown in table 6.3, the proportion of the total applicant population with no mobility restriction was 4 percentage points higher at the time of interview than at the time of application (78 percent and 74 percent, respectively). Among allowances, the proportions with no restriction increased 3 percentage points over this interval of time. The denial group with unrestricted mobility increased to about 89 percent, a net change of about 6 percent. At both intervals in time, denials were more able to move about freely and, in addition, they showed about twice the improvement over time as did allowances.

Changes in mobility status varied according to the initial status of applicants at the time of application. Most (92 percent) of the denials in the "no restriction" group maintained that same level at the time of interview while only 85 percent of the allowed group maintained this level. Among the applicants able to go outdoors but needing assistance, a greater proportion of denials improved in mobility over time than allowances: 73 percent and 41 percent, respectively. In general, slightly over half of the study sample with this degree of restriction improved their mobility status (54 percent). For allowances, some improvement in ambulation occurred at all levels.

A summary of the findings with respect to changes in mobility is presented below.

	[in percents]	Denied	Allowed	Combined
1.	No change in status*	80.8	71.9	76.1
	a. Unrestricted movement level maintained	76.0	55.9	67.4
2.	Unrestricted movement maintained or relative improvement over previous status	89.5	73.7	81.0

^{*} Excludes those initially confined to a medical institution.

The difference in percentage between items 1a and 2 above reflects the proportion who improved over their previous mobility status. The percent of all allowances showing some improvement over their initial status was greater than that for denials: 17.8 percent and 13.5 percent, respectively. Although this difference is not marked, it may reflect the fact that allowances generally had more

severe restriction when initially examined and thus were more likely to show a change. Their changes in mobility tended to be for the better, as shown in table 6.3. For denials, the net improvement observed was more the result of less severe disability and the consequent likelihood of maintaining that relative status over time.

Another aspect of an individual's level of functional capacity is his ability to maintain independence in the performance of every-day activities. This is commonly measured by an "activities of daily living" index, based on items pertaining to a person's usual activities. A modified version of a questionnaire developed by the staff of the Benjamin Rose Hospital was used in this study.¹ In addition, a composite index was devised, combining this measure of independence in everyday activities and the measure of mobility versus confinement to obtain an overall index of functional capacity. This composite measure is termed the mobility-activity index (see appendix D for further details).

The frequency distribution of the number of limitations in activities of daily living is presented for each study group in table 6.4. Slightly over 40 percent of the subjects reported no limitation in activities of daily living. The percentage was twice as high among denials as among allowances (58 percent and 28 percent, respectively). About 36 percent of the allowed applicants reported having at least three limitations, in contrast to 14 percent in the denial group. The overall patterns for denials and allowances are reflected in the averages observed for each: 1.1 and 2.4, respectively. This observed difference would be expected, in view of the level of severity of disabling disease in the allowed group as compared to that of the denied group.

The index of mobility-activity is used to analyze and compare the two study groups on this composite variable with other factors related to disability status. The first variable considered in this analysis is the initial primary disease category of denied and allowed applicants. In general, the question posed is whether or not those denied disability benefits were able to maintain a higher level of functional independence than those allowed benefits, after the onset of disease; and, if so, whether these differences were consistent for each of the primary disease groups.

It had been previously shown that denied applicants, in general, were slightly more functionally independent than were allowances (table 5.14). However, in terms of the average mobility-activity index scores, the differences between denials and allowances were

¹ Staff of Benjamin Rose Hospital, "Multidisciplinary Studies of Illness in Aged Persons; II. A New Classification of Functional Status in Activities of Daily Living," *Journal of Chronic Diseases*, Vol. 9 (1959), pp. 55-62.

small but still apparent when the primary diagnosis of the applicants was taken into account (table 6.5). Denied applicants had higher average index scores than the allowances in all disease groups. The least difference in average scores occurred in both the circulatory and respiratory disease groups (1.4), and the largest difference between the two groups was found for those with diseases of the nervous system (3.7). In addition, the range in index scores was greater for allowances in all disease categories, as compared to distributions for denials, indicating a greater variability in functional capacity among allowances than among denials. Furthermore, the index did differentiate to some extent those with varying pathologies and consequent residual impairments in the allowance group, but not in the denied group. Among allowances, for instance, those with nervous and musculoskeletal disease conditions showed lower levels of functional independence than those with circulatory and respiratory diseases. Overall, this measure of functional capacity indicated that denials as a group had higher levels of independence and were more homogeneous in ability when comparisons were made by disease categories. The fact that the mobility-activity index did not show denials to vary in level of independence by disability conditions may indicate that uniformly they were less severely disabled.

Variations in functional capacity may be influenced by the time lapse between disability evaluation and the study followup. Recent applicants may have been less able in activities and general mobility because of the shorter time since onset of the disabling disease. Those who had had more time to recover from the effects of the disease and to adjust to their condition may have achieved a greater level of independence. This may be a general recovery pattern. In addition, it would be expected that those less disabled at the time of the initial evaluation would show more rapid improvement. An otherwise comparable group who were more severely disabled would be expected to experience either no change or a deterioration in functional ability over time.

The evidence does not quite fit the expectations. In the first instance, a general pattern of recovery seemed to occur with the passage of time but this was noticeable only for recent onsets (time period 1) compared to those with onsets of about 2 years ago (time period 2). (See table 6.6.) In both study groups, there was an increased proportion of subjects with high levels of independence among those who had experienced onset of disability 2 years or more before reevaluation. This trend continued for the group of denials with earliest onset (time period 4), although the proportional change was minimal. In the allowance study group, the proportion of earliest-onset subjects with high levels of inde-

pendence diminished so that it was similar to that observed for recent onsets. Thus, the rebound-remission effect noted previously for denied applicants in terms of post-onset work experience occurred for allowances on this dimension of levels of functional capacity over time.

In the second instance, the less severely disabled group, denials, showed a greater improvement in level of independence than that observed for allowances, but this occurred in the recent onset groups only. Among denials, there was between time periods 1 and 2 an increase of 17 percentage points in the proportion classified as having normal functional capacity (index score of 25); for allowances, the increase was 6 percentage points. This trend in the rate of improvement was not observed for the denials having the earliest onset (time period 4); the proportion of their number having normal capacity showed no further increase. For allowances, the proportion having normal capacity lessened in the group with earliest onset of disability. In general, the increase over time in the proportion having high functional capacity was greater for the denied group than the allowed group, but this did not occur over all time intervals.

The mobility-activity index was used to compare the two study groups on another factor assumed to be related to level of functional capacity. Among applicants who were able to maintain a high level of functional independence it would be likely that these individuals would report fewer conditions that interfered with their ability to work. In general, one would expect an inverse relationship between level of functional independence and number of work-restricting conditions: the higher the level, the lower the number of conditions.

The index was grouped into three levels of functional capacity: low, medium, and high. These categories were determined by taking the distribution of scores of the total study population and cumulatively dividing the population into thirds, or terciles. This procedure was employed to bring about workable classes on this measure and to accomplish this by means of standardized categories.

As shown in table 6.7, somewhat over one-half of the denied applicants (52.5 percent) fell into the high level-of-independence category. The proportion of denials in the medium and low categories decreased directly with the level of functional capacity. The allowances showed the opposite pattern, in that the highest proportion was in the low category (42.6 percent), and the proportions declined in the medium and high categories. Applicants with few or no work-restricting conditions tended to have higher levels of functional independence. This was true in both applicant

groups but the gradient was more evident in the denial group. In general, there was a greater differentiation among denials in the relationship of these two variables.

The evidence presented in this section lends support to the expectation that the denied disability applicants, as a group, were better able to engage in usual, everyday activities than were the allowances. This general finding is based on information derived from the individual's appraisal of his own health status—it constitutes only one source of the data needed to comparatively evaluate the status of the disability applicants with respect to illnesses and impairments resulting in incapacities. To the extent that denied applicants are functionally more capable of normal activities, the relative effectiveness of the disability evaluation program in identifying the more severely disabled is substantiated.

MEDICAL APPRAISAL OF DISABILITY STATUS

The clinical examination furnished information for an independent assessment of the health status of disability applicants. Each subject examined at the hospital clinic was given a standard medical workup. This included a general history, physical examination, electrocardiogram, hands and chest X-rays, urine and blood analyses, and a musculoskeletal systems review conducted by a physical therapist. In some instances, an applicant was examined at home or in an institution, in which case a modified physical examination was performed, and X-rays and laboratory tests were omitted. The medical data obtained by each examination procedure have been combined in the major findings presented in this section.

As a first step in the analysis of the clinical findings, the diagnostic impression data were compared with the applicants' primary diagnoses obtained at the time of application for benefits. This was done in order to ascertain the extent to which applicants with certain initial diagnoses were clinically observed to have the impairment at the time of followup. In order to assign each applicant exclusively to one diagnostic category, the first condition listed on the disability evaluation record was deemed the primary diagnosis. The diagnoses thus obtained were grouped into twelve major disease categories for the purpose of analysis. All diagnostic impressions clinically observed for an individual at the time of followup were reviewed to ascertain if the initial primary diagnosis was among them, so as to classify the individual under the appropriate disease category. The results of this matching are shown in table 6.8.

In general, the highest consistency in diagnosis found upon followup occurred in the nervous, circulatory, and respiratory dis-

ease cases. Specifically, high proportions of strokes and other diseases of the nervous system, coronaries, and bronchitis-emphysema diseases were clinically observed for those who had had these conditions at the time of initial determination. Presumably, these disabling diseases were more symptomatic in patients insofar as the pathologic-impairment syndrome could be recognized. Effects of diseases of the musculoskeletal system seemed to have been less apparent upon review. In some instances, the initial primary diagnosis attributed to an applicant could have been therapeutically alleviated to the extent that it was no longer detectable in a routine clinical workup, although it could probably have been detected under a more specific diagnostic evaluation. No one disease condition had an absolute likelihood of being clinically observed upon later reexamination.

It would be expected that applicants more severely disabled at the time of their initial evaluation would likely be observed to have the same disability upon review. In most of the disease categories, the primary diagnosis was clinically observed in the review in greater proportions of allowed than denied applicants (table 6.8). Among the major disease categories included in this study, only circulatory diseases were more frequently observed among denials than allowances. Various factors may have contributed to discrepancies between the initial and followup evaluations, such as variability in diagnostic criteria, ambiguity in nomenclature, change in disease status within the individual, and human error. However, these data perhaps highlight a potential pitfall in the disability evaluation program. That is, the level of precision associated with the criteria used in establishing the nature and extent of impairment can result in omissions or misclassification. To the extent that these errors occur, the program's effectiveness is diminished.

In order to compare the disease status of denied and allowed applicants at the time of evaluation, it was necessary to account for all observed disease conditions. This was accomplished by classifying all the diseases of the individual, irrespective of the individual's primary condition. This approach avoided the difficulty of assigning to each examined applicant a primary diagnosis for which no meaningful criteria could be defined in terms of disability consequences. In this study applicants could not be reevaluated on the basis of the program's disability criteria. Rather, the intent of this study was to determine the comparative health status of denied and allowed applicants who had survived to the time of followup.

The distribution of clinical diagnoses, grouped into major diagnostic categories, is shown in table 6.9. The results are also pre-

sented for each initial primary diagnosis group. Each percentage represents the proportion of subjects who were observed to have the disease at the time of clinical evaluation, so an individual may be included under more than one disease. The percentage figures underlined in each column represent those disease categories that fall within the initial primary diagnosis rubric.

A striking feature of the data shown in table 6.9 is the extent and variation in the proportions of subjects with additional disease conditions. This distribution of diagnoses shows the multiplicity of diseases that appears to characterize disability applicants. In many instances, the proportions of denials and allowances with specific diagnoses were quite similar; in others, marked disparities occurred. For example, among those with a primary diagnosis of musculoskeletal disease, allowances had close to twice the proportions of "other" nervous diseases and arteriosclerotic heart disease as denials. Among persons with the primary diagnosis of respiratory disease, greater proportions of denials than allowances had also allergic, endocrine, and mental diseases. There were a number of other instances in which the frequencies of clinically observed conditions varied by initial diagnostic category and disability status.

The extent and variation of other complicating conditions made the task of analyzing and interpreting the data more difficult. In order to make efficient use of these data and, at the same time, account for the multiple-disease status of the study members, the single-diagnosis approach for classifying individuals was used. Thus, comparisons were made between denials and allowances for all major diagnostic categories. The number in each major diagnostic group included all the cases clinically observed within that disease category, irrespective of other disease conditions attributed to the same individuals.²

The comparisons were carried out on a selected number of variables, each based on self-appraisals of disability status, using the diagnoses derived from clinical evaluations as a control variable. The selected variables include post-onset work status, work-restricting conditions, and level of independence as measured by the mobility-activity index.

The post-onset work status distributions of denials and allowances for each major diagnostic group are shown in table 6.10. As expected, greater proportions of allowances than of denials were in the "not working" category and this difference was consistent

² For example, the total number of denials (79) and allowances (107) shown under the "allergic and related diseases" category in table 6.10 constitute the 14.3 percent and 18.3 percent, respectively, of the same diagnostic group as is shown in table 6.9 in the "total" column, line 1.

in all diagnostic groups. In each disease group, roughly 8 to 9 out of 10 allowances were not working following their disability, in contrast to 5 out of 10 denials. These findings were similar to those previously noted where only the broad classification of primary diagnosis was used (see table 5.9). Furthermore, this latter observation was made on the basis of the applicant's initial determination of disability, while the former was based on our current clinical evaluation data. In using either of the diagnostic criteria for classifying subjects, the differential pattern of post-onset work experience between denials and allowances remained the same and, in general, it was not specific to any particular set of disease conditions.

The extent to which the number of work-restricting conditions was related to each major disease is shown for each disability group in table 6.11. In each of the distributions, the modal category of work-restricting conditions was one. Within each diagnostic category, the proportion of allowances in this modal category was greater than that of denials. Moreover, the spread in the distribution of work-interfering conditions tended to be greater among denials than among allowances, and this observation was characteristic of the primary disabling disease groups included in this study. In general, the distributions of denials and allowances with respect to the number of work-restricting conditions, within each of the major disease groups, were not markedly different. There appeared to be a greater trend toward similarity than toward disparity.

The third variable, level of mobility-activity, appeared to differentiate denials from allowances in each of the major diagnostic categories, as shown in table 6.12. Allowances were likely to have lower functional capacity than denials, and this pattern occurred in every disease group. The most marked difference between denials and allowances in mobility-activity distributions occurred among those with diseases of the nervous system, and considerable contrast was evident also among those with musculoskeletal diseases. The least contrast was found in the respiratory disease group, if comparisons were limited to the primary disease groups in this study. One might have expected the greatest contrast in functional capacity between denials and allowances to be within those disease categories that seem most likely to result in residual impairments—namely, strokes and rheumatoid arthritis. With respect to this particular measure of functional capacity, visibility of the disability may have allowed for greater differentiation between applicants with severe disability and those with less severe disability. This may be the most plausible explanation of the data presented in table 6.12.

In contrast to the self-assessed measure of functional capacity used in the preceding table was the clinical assessment employed in the medical examination phase of the study. This was an independent measure of the patient's physical activity status. The basic measure used was the New York Heart Association's functional classification of heart disease.³ This same classification scheme was used also in assessing the physical activity limitations of applicants with respiratory, neurological, and musculoskeletal diseases. Therefore, the data presented in table 6.13 were confined to these four selected diagnostic groups.

As shown in table 6.13, allowances were graded as more severely limited in physical activity than were denials. This contrast occurred within every diagnostic category, and was greatest among those with neurological diseases. Nearly the same amount of difference between allowances and denials was noted for the groups with musculoskeletal and respiratory diseases, but a much smaller difference for the group with circulatory diseases. Among subjects with respiratory diseases, the functional capacity distributions of denials and allowances were more dissimilar from each other in this than in table 6.12 where the data were based on self-assessments. In general, greater proportions of subjects were graded as severely limited in functional capacity on the basis of clinical assessment than on the basis of self-assessment.

Another indicator of disease status, particularly with respect to the circulatory diseases, was the electrocardiographic (ECG) baseline reading obtained for each patient. An independent evaluation of these ECG readings was carried out by a cardiologist who interpreted and classified each tracing according to the criteria used in the National Health Examination Survey.⁴ In a few instances, an ECG could not be interpreted or a patient failed to undergo this laboratory procedure. There were 29 patients without a recorded ECG reading.

The ECG results for denials and allowances in each initial primary diagnostic group are shown in table 6.14. In general, and in each diagnostic group, a higher proportion of denials than allowances had an ECG reading that showed no abnormality. In the total sample, about one-third (32 percent) of the denied subjects, in contrast to about one-fifth (19 percent) of the allowed subjects,

³ Criterion Committee of New York Heart Association, Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Blood Vessels (Boston: Little, Brown & Company, 1964), 6th Edition, Section 2.

⁴ National Center for Health Statistics, Coronary Heart Disease in Adults, United States, 1960-1962. Public Health Service Publication No. 1000, Series 11, No. 10, 1965. Appendix II.

had a normal reading. As a group, applicants allowed benefits on the basis of a circulatory disease disability had the lowest proportion of normal readings (11 percent). As might be expected, a fairly high proportion of the abnormal readings in this disease category were classified as myocardial infarctions (37 percent). Interestingly enough, in the respiratory disease category, the denials more closely approximated the allowances with respect to the frequency of normal ECG readings (20 percent and 16 percent, respectively) than in any other primary disease category. In both disability groups, applicants in this and the circulatory disease category had more abnormal ECG readings than those with nervous and musculoskeletal diseases.

At the time of the clinical examination, each patient received a muscle-strength and joint range-of-motion examination. These independent assessments of the patient's physical capacity were performed by a trained physical therapist. A set of guides and standard procedures were devised for this purpose and the information obtained was recorded on a special form. (See appendix B for the form, "Muscle Strength and Joint Range of Motion Test.") This information was then coded and summarized for the purpose of analysis. Joint range-of-motion (ROM) and muscle-strength (MS) summary index scores took into account the range of capacity observed for each joint and muscle tested. (The procedure for scoring each joint and muscle and the method of obtaining summary index scores are shown in appendix E.)

The overall results of these summary measures for denials and allowances are presented in table 6.15. A zero score indicates normal physical capacity; that is, no physical or functional limitations were observed. The spread in the distribution of range-of-motion scores was somewhat greater for allowances than for denials and this was reflected in the average scores for each group: 10.1 and 6.7, respectively. There was a tendency for allowances to score as more handicapped on this range-of-motion measure. The proportion with normal scores was lower for this group (24 percent) than for denials (29 percent). However, the two range-of-motion distributions were not markedly dissimilar.

Each of the muscle-strength summary index score distributions of denials and allowances showed a high proportion of subjects with other than normal functional capacity. About 23 percent of the denials and only 15 percent of the allowances were classified as normal in muscle strength. In addition, allowances were observed to have had more limitations of muscle-strength capacity than denials, as indicated by a comparison of the range of scores for each distribution. This difference in the distributions is shown in

the average scores for each group: 014.6 for denials and 024.6 for allowances.

As shown in table 6.16, allowances with musculoskeletal diseases were the most limited in range of motion and the contrast of their scores with those of denials was striking. In this instance, the average ROM score for allowances was 021.2 and for denials it was 008.7. Among denials, those with musculoskeletal diseases tended to have more ROM limitations than those with other primary diseases, as shown by the percent with normal scores for each of the groups. Denials with nervous diseases on the average scored about the same in ROM as those with musculoskeletal diseases.

Allowances were generally more limited than denials in muscular strength, and this was shown in each of the primary disease categories. However, the difference between the groups was minimal in the respiratory disease category (table 6.17). In fact, the average MS score for denials (013.2) in this disease gooup indicated higher individual limitation than that of allowances (011.1), but the proportion with normal muscle strength was higher for denials (30 percent, as compared with 20 percent). Allowances with nervous and musculoskeletal diseases were the most limited in muscle strength. Denials with these diseases also showed great limitation, but to a lesser extent than allowances.

The summary index score distributions of the ROM and MS measures were cross-classified for the purpose of evaluating the significance of these measures of functional capacity in relation to disability status. Using the dichotomy of "normal" versus "less than normal" for each of the measures, a simple two-by-two matrix resulted and each cell constituted a combined ROM-MS category. (See table 6.18.)

The general relationship between applicant status and the level of functional capacity (combined ROM and MS measures) was significant, and this degree of association obtained for each of the primary diagnosis subgroups (table 6.18). The direction of this association was as expected; that is, allowances had more functional limitations than denials. The strength of association was greatest in the musculoskeletal disease group.

The two means of appraising functional capacity (the independent assessment based on scores of ROM and MS limitations, and the self-assessment based on mobility and activity limitation) were compared to evaluate the extent to which these appraisals were congruent. Each had slightly different criteria but, in general, the difference in their measurement was more a matter of degree than of kind. It would be expected, therefore, that these two measures

would be directly related and the extent of congruence would be high.

As shown in table 6.19, there was a direct relationship between the ROM measure of functional capacity and the mobility-activity index; that is, greater independence in activities was associated with a higher range of motion. This was evident for both disability applicant groups. However, the extent of congruence between the two measures fluctuated widely within the several categories of severity. For example, among those who reported no limitations in mobility and activities (an index score of 25), only 35 percent were clinically assessed as normal with respect to joint range of motion. This percentage was the same for denials and allowances. Although denials as a group tended to grade themselves as more independent in activities than allowances (cf. table 5.14), the overall relationship between the two measures of functional capacity was quite similar for denials and allowances. In both disability groups, the majority were assessed below normal in range of motion, irrespective of their level of independence in activities. In general, this pattern reflects the fact that denials and allowances showed more severe disability in the ROM test than in their own evaluation of functional capacity.

The same type of relationship was observed between the muscle-strength measure and the mobility-activity index (table 6.20) as that cited above. The percentage distribution patterns for denials and allowances were fairly similar, although proportionately more denials with no reported activity limitations were assessed as normal on the muscle-strength measure (29.5 percent) than were allowances (24.1 percent). As a group, denials scored as less severely disabled than allowances on the muscle-strength measure, although the distribution of mobility-activity scores was not markedly different in the two groups.

The range-of-motion and muscle-strength measures were tabulated by disability status for each of the major diagnostic groups (tables 6.21 and 6.22). Within each of the major disease categories, allowances had been rated as more severely disabled than denials on each of the functional capacity measures. The greatest proportions of severely disabled persons were among those with diseases of the musculoskeletal and nervous systems and among those with impairments from accidents and injuries. This was particularly noticeable for the allowances; denials exhibited the same pattern but to a lesser extent.

In a few disease categories, the proportion of allowances graded as normal was greater than that of denials. This occurred in the allergies category and was evident on both measures, although the difference in each instance was not great. However, based on the general evidence presented in these tables, it is apparent that allowances tended to be more handicapped than denials with respect to functional capacity.

A selected review of the findings related to the various measures of functional capacity is presented in table 6.23. The percent of denials and allowances rated normal (without limitations) for each measure of functional capacity and each major clinical diagnosis category has been abstracted from the preceding tables and summarized in this table. Certain general patterns emerge as a result of this synopsis. Self-assessments of functional ability reflected a perceptible optimism among disability applicants, when compared with independent assessments in which applicant's conditions were rated by others; as the level of assessment became more specific to the disease condition, the percent rated normal decreased further. The pattern was quite evident for denials but was less pronounced for allowances. In fact, allowed disability applicants tended to appraise their limitations much as did the independent evaluators. This may imply that persons who are severely disabled tend to be more aware of their limitations and, as a consequence, their own evaluations are more congruent with assessments made by others.

The findings from the medical evaluation data presented in this section tend to confirm the findings in the previous section. Among applicants whose disability status was medically appraised, the denials were in better health, generally, than allowances. The evidence shows that medical diagnoses of allowances were more consistent with the conditions that had been reported at the time of disability determination, implying a greater permanence in effects of their initial disabling disease; within each clinically diagnosed disease category, allowances were less likely to engage in gainful activities following the onset of disability, and were likely to be graded lower with respect to functional capacities. There were proportionately fewer normal electrocardiogram readings among allowances than among denials.

In spite of this obvious trend, there were indications that the differences between denials and allowances were not striking, but rather inclined toward homogeneity on these disease and disability traits. The extent to which both groups included a wide range of disease conditions points up the comparability. Similarity was observed for denials and allowances also in the relationship between each of the functional capacity measures (ROM and MS) and the mobility-activity index. One implication of this is that, as the survivors constitute a residual cohort of disabled subjects, denials may become indistinguishable from allowances over time. Stated in another way, denials will tend to acquire the attributes of allowances because of selective survivorship.

For purposes of this study, the Bureau of Disability Insurance of the Social Security Administration reassessed the disability applicants under the same eligibility requirements, set of medical standards, and non-medical guides as those used in the initial determination. Because the same criteria were used in the followup phase as were used initially, valid comparisons could be drawn.

At the time of reassessment, the disability examiners were instructed to evaluate each case by using current medical data, the up-dated earnings record, and the information reported by the applicant on the interview schedule as to current health and work status. The applicant's disability status from the previous determination and all information pertinent to that decision were excluded from consideration in the reassessment. In this sense, each review was based on "new" applicant records. The followup records of both denied and allowed applicants were distributed to the examiners at random to minimize bias that could have resulted from reviewing disability claims associated principally with disease diagnosis, or with severity of condition, recency of onset, or age. The assessment form used by the examiners to record their respective determinations is shown in appendix F.

The results of this review are shown in table 6.24. The findings are presented according to the primary diagnosis for denied and allowed applicants whose initial determination was 1 year, 2 years, or 4 years prior to the review. Denials, in general, had a greater rate of changeover in disability status than allowances. The exception to this pattern was in the musculoskeletal disease group. Overall, about 24 percent of the denied applicants were subsequently assessed as eligible for disability compensation, the implication being that these applicants were currently more severely disabled than before, or other compensating factors entered into the reassessment, or both situations obtained. On the other hand, close to 20 percent of the allowances were judged as currently ineligible for disability benefts. The change in status could have been due to any of several reasons, such as: (1) the disease condition—in that it failed to meet the level of severity prescribed by the medical standards, it was not expected to be of a long-continuing and indefinite duration, or it was a remediable condition: or (2) the applicant's work status—in that he now had the ability to engage in substantial gainful activity, or he was presently engaged in work. However, age was not considered in the reassessment, so no applicant was denied on the basis of having reached

retirement age and hence having become eligible for retirement benefits rather than disability benefits.

In the reevaluation, denials whose onset of disability had occurred at an earlier date were more likely to be judged as disabled, and hence allowed benefits, than those with more recent onsets. About 28 percent of the initally denied applicants in time period 4 were reclassified as allowances, while 21 percent of those in time period 2 and about 22 percent of those in time period 1 were reclassified. This general trend was characteristic of denials in each primary diagnosis group with the exception of those with nervous diseases.

Among allowances, the general trend was in the opposite direction. Applicants having recent onsets were more likely to be reassessed as denials than were those whose onset of disability occurred at an earlier date. This trend was evident for allowances with nervous and musculoskeletal diseases but not for those with circulatory and respiratory diseases. In the latter disease groups, the pattern was similar to that observed for initially denied applicants.

It is interesting to note the contrasting patterns of acceptance and rejection in the two applicant groups. For denials, the longer the time lapse between the initial and followup disability determinations, the greater the likelihood of being reclassified as disabled and eligible for benefits. This would be expected, given the fact that these applicants had chronic disease conditions that threatened their future ability to engage in substantial gainful employment.

For allowances with circulatory and respiratory diseases, the lapse of time since onset increased the likelihood of being denied. With the passage of time, the severity of the disease condition may have lessened so that the applicant was subsequently able to work, or was in fact working. On the other hand, among allowances with nervous and musculoskeletal diseases, the chance of rejection was greater for those with more recent onset of disability. If the same reasoning as just cited is applied, the implication is that allowances with the latter conditions recover more rapidly and hence become ineligible for disability benefits sooner following the onset of disability. But this implies, also, that the level of recovery would likely be the same for those with earlier onsets and thus one would expect the rate of rejection to be the same or higher. Such was not the case, in general. It may be that the physical condition of allowances with nervous diseases tended to stabilize over time, the disease leaving those who survived with overt impairments and hence severely disabled. For the group with musculoskeletal diseases, it may simply have been a function

of the natural history of the disease. However, arthritis and rheumatism, although progressive in nature, may also show variable patterns of remission and recurrence which could affect the assessment decision at any one point in time. These diseases may be difficult to assess in terms of severity of disability, in general, and thus lead to greater variability in assessments. In the final analysis, the variations observed in this reassessment study may be attributable to the variability among examiners in making decisions, as much as to changes in the applicants' disease conditions.

Finally, it should be noted that at the time the reassessment was being conducted the official disability records of the study group were not reviewed to determine the current disability status of the claimants, the initial determination being used in these comparisons. It is quite possible that some allowances and denials could already have changed their status during the intervening period.

A number of initially denied applicants do reapply and for some of these the decision is reversed. The Bureau of Disability Insurance staff estimated that about one-third of the derials submit second applications and about 25 percent of these later applications are reclassified as allowances. No estimates are available for initially allowed applicants who may later be terminated. If this estimated changeover rate were applied to the denial group and comparisons made with the official disability records, about 8 percent of the initially denied applicants would be reassessed as allowances. Thus, a certain level of agreement or disagreement would obtain if further comparisons were made with the official disability records. A somewhat similar pattern may likely occur in the initially allowed group, although no estimates can be made since the rate of changeover is not known.

MEDICAL CARE AND AGENCY UTILIZATION

Information about recent medical care services and physical and vocational rehabilitation services received by disability applicants had been obtained at the time of the interview. The purpose of these data was to ascertain the extent to which each disability applicant group utilized such services, both during and following the onset of disability. The information collected included hospitalizations; medical and paramedical visits; physical, occupational, and vocational rehabilitation services received; and personal assistance obtained other than medical assistance.

As shown in table 6.25, the average number of hospitalizations over the past 5 years for the entire study group was 1.6; and denials had a lower average number of hospital stays than did allowances—1.4 and 1.8, respectively. About one-fourth (25.9 percent) of the denials and about one-fifth (19.6 percent) of the

allowances had no hospitalization over the 5-year period. This general pattern of hospitalization would be expected in a comparison of denials and allowances because of disability levels associated with the two groups. Furthermore, this pattern obtained within each of the primary disease categories. Within each of the disability groups, the average number of hospitalizations was fairly uniform for each disease group.

The average days of hospitalization for those hospitalized during the preceding 5 years was about 48 days (table 6.26), or 9.6 days per year. The average number of days spent in hospitals was greater for allowances (10.4 days per year) than for denials (8.5 days per year). Within each primary disease category, allowances spent more days in the hospital on the average than did denials. The highest rate of hospital use was by allowances with nervous and musculoskeletal diseases, and the lowest was by denials with nervous diseases.

Another aspect of medical care utilization is that involving services of physicians and other health personnel in the community, such as nurses, therapists, and health aides. Rather than treat each type of medical care separately, a measure that included all types of care was developed for analytical purposes. For each study member, the visits to each of these health units over the past year were added together to give an index of annual health visits. The total study population was ranked according to these scores and the distribution was divided into terciles to establish three index levels: low, medium, and high. The results are presented in table 6.27.

The average index score for the total group was 11.6; denials had a lower average score than allowances (10.3 and 12.8, respectively) and this difference was statistically significant. However, among those with musculoskeletal diseases, the average frequency of health visits was higher for denials (10.2) than for allowances (9.2). This was the only exception. Among allowances, those with this disease had the lowest average frequency of health visits. The greatest difference between the applicant groups occurred in the circulatory disease category, where allowances showed a significantly greater frequency of visits than denials (14.6 and 10.9, respectively). Both denials and allowances had relatively high

⁵ As a general comparison, the 1966 Survey of Disabled Adults found that disabled worker beneficiaries averaged 14.1 doctor visits per year (excluding all other types of health-related visits), while the total adult population aged 17–64 years averaged 4.7 doctor visits. See Lawrence D. Haber, "Health Care Utilization of the Disabled (Presentation to the Social Security Administration Advisory Council on Health Insurance for the Disabled)," Social Security Administration, July 1968.

utilization rates that likely reflected the health care needs of the disabled population generally.

In addition to hospital care and health personnel visits, there may be another source of care available to individuals with health problems. This is the informal, personal assistance rendered by members of the family, relatives, friends, and persons who provide household assistance. The extent to which individuals receive this type of personal care may indirectly reflect the severity of their disability, as well as indicating the availability of such support.

As shown in table 6.28, the average number of persons providing personal assistance to applicants was greater for allowances (1.1) than for denials (0.6). The difference in averages was statistically significant and this held for each of the primary disease groups as well. The majority of allowed beneficiaries (60 percent) were assisted by at least one person, but the majority of denials (65 percent) received no personal assistance. This could have been the result of both factors mentioned above; that is, less severe disability among denials and fewer sources of personal support available to them. Based on the evidence cited to date, one could infer that the less severe condition was the more important factor. Interestingly enough, the proportion receiving no assistance was fairly uniform for all disease conditions, and this was evident in both the denied and allowed disability groups.

Rehabilitation services comprise one other type of service in the community for persons with disabling conditions. Such services include physical and occupational therapy, as well as vocational rehabilitation. Generally, the source of the latter is separate from health-care units, usually being sponsored by an educational or employment agency.

The consequences of disability may be indirectly measured by the extent to which rehabilitation services are utilized by those with chronic disease conditions. It may be that those with the least residual impairment would be most likely to use such services. On the other hand, such individuals might be least acceptable to the agency from its point of view of providing services primarily to those most in need. In the provision of rehabilitation services there may be, in addition, an optimum level beyond which they would be of diminishing benefit to the individual. Severe disability may preclude any services whatsoever on the presumption that there is no likelihood of benefit to the individual.

It is apparent from the data in table 6.29 that few individuals (6.6 percent) had received physical or occupational therapy. This observation was strikingly evident for both groups, even though the proportion was somewhat larger among allowances (8.1 per-

cent) than among denials (4.9 percent). In both, members with diseases of the nervous system had received proportionately more therapy than those with other disabling diseases. Presumably, applicants with strokes and subsequent residual impairment were more likely to have received these services than those with other conditions. Another group of applicants who would have been expected to use such services extensively were those with musculoskeletal diseases, but this was not borne out by the data. In general, the applicants receiving physical and occupational therapy were in the minority.

The extent to which individual applicants had contact with vocational rehabilitation agencies is shown in table 6.30. An agency contact in this context includes inquiries initiated either by the individual or by the agency, as well as actual receipt of services. Twenty-six percent of the group had had at least one agency contact. Denials had reported more contacts than allowances, and in each disability group those with musculoskeletal diseases had the highest frequency of contact.

The lack of extensive contact and services for rehabilitation purposes in the disability applicant population may be indicative of the evaluation system, rather than being a measure of the consequences of disability. The evaluation system includes the referral network, the individual participant, and the service agencies. In the process of evaluation and disability determination, the emphasis is on the disabling effects of the condition and, therefore, on the extent to which the individual is unable to engage in substantial gainful activity. On the other hand, rehabilitation places the emphasis on the level of ability an individual might hopefully attain. This process involves an inherent dilemma, which may be termed the liability of disability assessment. Actions taken by the individual and the service agency may be viewed as consequences of the disability evaluation system.

When a person who attempts to establish a claim of disability is disallowed, the implication is that he is able to work. Under these circumstances, an applicant may be disinclined to seek rehabilitation services and, even if he is referred to an agency, the label "able to work" may weigh heavily against his chances of obtaining such services. From the point of view of the agency, he is not one of those most in need of its services. Similarly, an applicant who is allowed compensation is, consequently, labeled as severely disabled and presumably unable to engage in substantial work activity. The individual may be disinclined to seek services geared to restore

⁶ This contrast has been cited in numerous publications. For a recent statement, see Richard D. Burk, "The Nature of Disability," Journal of Rehabilitation, Vol. 33, No. 6 (November-December 1967), p. 14.

him to the optimum functioning level, because of his established status as a disabled person receiving benefits. Further, a rehabilitation agency may not wish to provide such services because the likelihood of successful rehabilitation is minimal. Under either set of circumstances, the liability of disability assessment may lead to unanticipated, and adverse, consequences for the individual.

SUMMARY

Viewed from the perspective of general patterns in disability and illness, denials were observed to be in better health than allowances. The results were similar under the two types of assessment undertaken, self-appraisal and clinical appraisal of disability. Those initially denied disability compensation were less restricted in movement, had fewer activity limitations, were more likely to have engaged in work activity following disease onset, and their levels of functional capacity, as assessed independently, were higher than those observed for allowances. Furthermore, this pattern was consistent within each of the disease categories. However, the extent of these differences between denials and allowances was not great.

On the basis of a followup assessment of the applicants' disability status, it was evident that denials had a greater rate of change-over in status than allowances, about 24 percent being subsequently assessed as eligible for disability benefits. However, a fairly high proportion (about 20 percent) of allowed applicants were judged as being ineligible. The rate of changeover in this residual cohort of survivors suggests that a systematic recall and reassessment procedure may be necessary to adequately evaluate changes in the disability status of applicants over time.

Finally, the limited extent to which applicants had received physical and occupational therapy and vocational rehabilitation points up a lack of continuity and liaison between the disability program and those agencies geared to assist individuals in returning to an active productive life—once such individuals have been identified. In this respect, continuity in observation over time could make the program more effective from the standpoint of providing compensation to the severely disabled and, similarly, providing services to those most in need.

Chapter 7

SUMMARY AND CONCLUSIONS

THE SOCIAL SECURITY DISABILITY PROGRAM was established to provide income-loss benefits to those eligible (insured) workers who are unable to engage in any substantial gainful activity as a consequence of a medically determinable disease or impairment. In the provision of these benefits, it must determine which applicants are, in fact, severely disabled, based on the program's criteria of functional incapacity to work. The effectiveness of the evaluation procedure may be critically appraised by means of a followup study that would from a later point in time ascertain the extent to which the system had meaningfully differentiated the more severely disabled applicants from those less severely disabled.

A followup study was conducted having as a central objective the analysis of the disability status of denied and allowed applicants subsequent to their initial determination. Under this general objective, the purposes of the study were to examine the survivorship rates of the applicant groups and, for those who had survived to the time of the study, to investigate the relationship between initial and subsequent disability characteristics—including health and illness patterns, post-onset work and occupation experience, and changes in life style. A total of 1,564 applicants were included in this study; 1,480 were interviewed, and 1,143 were medically examined. The data were analyzed in terms of the status of denials compared with allowances.

The study was conducted in one metropolitan community and, although it was viewed as a pilot project, it was intended to serve as a first approximation in evaluating the program's effectiveness. The findings, however, may be limited in applicability, given this restriction in representation.

This summary follows the same sequence as the preceding detailed report.

SURVIVORSHIP

Allowed disability applicants experienced a higher rate of mortality over time than those denied benefits. In general, the chance

of surviving to the end of 4 years after determination was 53 percent for allowances, and 97 percent for denials. This finding was present in each of the primary disease categories analyzed in this study, although the difference was much smaller in the group with musculoskeletal diseases.

SOCIOECONOMIC STATUS

The post-onset economic status of denied disability applicants revealed certain similarities with and differences from persons allowed benefits. The average income was about the same for each group, and this was quite low (\$3,253, denials; \$3,382 allowances). Although denied applicants as a group tended to rely on a variety of income sources for their main support, many did so to the exclusion of alternative sources. A large proportion of allowed applicants relied on their disability benefits as a main source of income but tended to have other sources of income as well. In general, both disability groups appeared to be economically dependent. Each disability group is characterized by low income, limited assets, and somewhat restricted sources of economic support.

The two groups experienced little change in life style between the pre- and post-onset disability phases, according to the measurement of socioeconomic level based on residence location. However, location of residence may be an insensitive indicator of the impact of disability on the life of an individual. By a less direct and somewhat unorthodox approach to measuring change in life style, denials and allowances were compared on a number of socioeconomic characteristics at the two points in time. These comparisons showed a trend toward dissimilarity between the groups, denials tending to change after onset to a lower socioeconomic level than allowances.

WORK STATUS

Denials tended to have held their pre-onset jobs for shorter durations, in comparison with allowances. This was consistently found in each of the occupational classes. The work pattern of denials was characterized by greater job instability as indicated by the greater number of jobs held and by the higher proportion that were in unskilled occupations. These factors would likely influence job status and occupational changes following the onset of disability.

The majority of applicants (72 percent) did not return to work following the onset of disease. A greater proportion of allowances (88 percent) in contrast to denials (54 percent) failed to return

to work after onset. Among those who did resume or continue work, a high proportion (64 percent) were in the same line of work as before. This continuity in line of work was more characteristic of allowances than denials. However, changes in occupation did occur among those who returned to work. Twenty-three percent of these experienced a downward shift in occupational status; a greater proportion of denied applicants (25 percent) followed this pathway than did allowed applicants (16 percent).

The return-to-work experience of disability applicants varied according to the lapse of time following onset. Denied applicants whose onset of disability was about 2 years before, were more likely to have returned to work than denials with earlier or more recent onsets. This pattern was not observed for allowances.

In general, disability applicants who returned to work were likely to have been younger in age at the time of disease onset, and to have as their disability a disease of the circulatory or musculoskeletal system. These characteristics were more evident in the denied disability group than in the allowed group. As would be expected, the returnees also reported fewer health problems and chronic conditions, as well as fewer conditions that interfered with their ability to work. Between the two study groups no distinction was observed with respect to conditions that resulted in work limitations. The level of functional capacity, as measured by the mobility-activity index, was somewhat higher for denied applicants in contrast to allowances, but this measure failed to differentiate between those who worked and those who did not work within each study group.

ILLNESS STATUS

Evidence based on applicants' self-appraisals supported the general expectation that denied disability applicants would be more able to engage in usual, everyday activities than the allowances.

About 80 percent of denied applicants and somewhat over 70 percent of the allowed applicants experienced no change in mobility status after disease onset. Among those who, between initial application and review, experienced some improvement or were able to maintain unrestricted mobility, the proportion of denied applicants exceeded allowances.

The measure of overall functional capacity, the mobility-activity index, indicated that denials in contrast to allowances had higher levels of independence, and showed less variability in functional ability in all the disease categories.

The findings based on medical evaluation data tended to confirm the results obtained from the applicants' self-appraisals of their disability status. Among applicants who were medically appraised, the denials were in better health, generally, than allowances.

The clinical diagnostic impression data were compared with the applicants' primary diagnoses obtained at the time of determination of disability. In general, the highest consistency in diagnostic evaluations upon followup occurred in the nervous, circulatory, and respiratory disease categories. Diseases of the musculoskeletal system appeared to have been less observable upon reexamination. In most disease categories, the primary diagnosis was clinically observed at the time of reexamination for a greater proportion of allowed than of denied applicants. The fact that allowances maintained a higher consistency in medical diagnoses over time implies a greater severity of their initial disabling diseases.

Within each clinically diagnosed disease category, allowances were less likely than denials to have engaged in gainful activity following the onset of disability. In each disease group, roughly 8 to 9 out of 10 allowances were not working following their disability, in contrast to 5 out of 10 among the denials.

In the clinical assessment of functional capacity, allowances were graded as more severely disabled with respect to physical limitations than were denials. This contrast occurred within each of the four major diagnostic disease categories but was most marked among applicants with neurological diseases. The difference was nearly as great in the musculoskeletal and respiratory disease categories and somewhat less in circulatory diseases.

Another independent measure of functional capacity used in assessing the physical ability of applicants was the muscle-strength and joint range-of-motion examination. Within each of the major disease categories, allowances were rated as more severely disabled than denials in each measure of functional capacity. Contrast was greatest in the musculoskeletal disease group.

The medical evaluation data from these several measures showed that denials were less restricted in movement, had fewer activity limitations, were more likely to have engaged in work activity following disease onset, and had higher levels of functional capacity. Furthermore, this pattern was consistent within each of the diagnostic disease categories.

In spite of this obvious trend, there were indications that the differences between denials and allowances were not striking, but rather that the groups tended toward similarity in diseases and disability traits. Both were characterized by a wide range of multiple disease conditions. Furthermore, a similar pattern was observed for denials and allowances in the relationship between each measure of functional capacity (range of motion and muscle strength) and the mobility-activity index.

In the followup assessment of the applicants' disability status, it was evident that the denial group had the greater rate of change-over in disability status. About 24 percent of them were judged at the time of review to be allowable. A fairly high proportion (about 20 percent) of the allowed applicants in the sample were judged as no longer eligible for disability benefits. However, it is likely that a certain proportion in each group would already have been officially reclassified in the period since initial determination.

The limited extent to which applicants had received physical and occupational therapy or vocational rehabilitation pointed up the lack of continuity in assessment and medical care between the disability program and those agencies geared to assist individuals in returning to an active, productive life once such individuals have been identified.

In summary it should be noted that, while differences obtain between denials and allowances with the former having more independence and mobility in general, there also appears to be a fair degree of similarity between the groups. However, some of the overlap in disease and disability characteristics may be an artifact of the study design, which excluded applicants who failed to survive to the time of the study and those who no longer resided in the area. Given the high rate of mortality among allowances (in all major disease categories except musculoskeletal disease), those who survived were presumably the ones who were less severely disabled. Applicants initially less disabled—and hence denied tended to become more disabled over time, due to the progressive nature of their chronic conditions. In addition, there may have been selective out-migration of denied applicants who were less impaired by their conditions than some others. The consequences of these selective factors may have minimized the differences observed between the two applicant groups.

Another factor that could affect the degree of difference observed between denials and allowances is the rate of changeover in disability status for each applicant group. The proportion of initially denied applicants who were later assessed as allowable for disability benefits was somewhat similar to the proportion of allowed beneficiaries who were subsequently judged ineligible. Since comparisons were based on their respective initial determinations, this subsequent changeover has the effect of minimizing the differences between the two groups.

It is obvious however, that there are differences in disease and disability traits and that the applicants allowed disability benefits are the more severely disabled.

An interesting pattern emerges for those denied disability benefits, relative to their status with respect to illness and disability on

the one hand, and their economic and work situation on the other.

The denied applicants were characterized as economically dependent, with unstable work histories and marginal job status. Under the criteria for classifying applicants, they were capable of engaging in gainful activity. Many of the denials did work subsequent to onset of disability, but the extent to which their gainful employment was "substantial" may be open to serious question. Over time the health status of these applicants appeared to deteriorate or, at best, remain static. Clearly, the denials' rate of changeover in disability status is indicative of this trend.

The denied applicant who becomes increasingly more disabled is unlikely to remain gainfully employed. As a result, he is at risk of becoming uninsured and ineligible for benefits at some future time because of the technical requirement that he must have worked 20 out of the last 40 quarters. While many of these applicants may be capable of productive activity, as indicated by their level of functional capacity, they tend toward greater dependency as a consequence of economic and social deprivation, coupled with their denial status and lack of outside support. The delay in applying for benefits till after the disease reaches a crucial stage poses an additional burden for persons already in a marginal position. The resources available to the individual to offset the economic effects of disabling disease are likely to be limited and soon dissipated. The cumulative effects which constitute a trend toward dependency may have begun well before the individual applied for disability benefits. Thus it is that denied applicants, although somewhat more functionally able to work than allowances, appear nevertheless to be in an adverse position with respect to maintaining an independent livelihood.

To some extent the allowed applicants are in a similar position but there are certain differences. The severity of their disabling condition precludes, to a large extent, their participation in gainful employment. In this respect, the income-maintenance benefit provides a modicum of support. Even with these benefits, allowances appear to be economically deprived, but they are in a somewhat more favorable position with respect to maintaining themselves than denials.

CONCLUSIONS

1. From the point of view of the program's objective, the disability evaluation process appears to be effective to the extent that it screens out the severely disabled from those less disabled in the applicant population.

2. In general, the rate of changeover in this study group suggests that a systematic recall and reassessment procedure may be necessary to adequately evaluate the probable changes in the status of applicants from time to time. Continuity in observation may make the program more effective from the standpoint of providing benefits to those severely disabled. It is known that some individuals denied disability reapply and consequently are reevaluated. In addition, a person receiving disability benefits may be required to resubmit evidence and be reevaluated to determine "whether such individual continues to be under a disability." Further, certain impairments covered under the disability program which are expected to improve are reevaluated periodically. To the extent that investigations of continuing disability do occur, this suggestion would need modification. However, a systematic recall and reassessment procedure may be directly applicable to the majority of denied applicants and to those disability beneficiaries who are not periodically reevaluated.

To insure the most efficient means of utilizing this recall procedure, a system of grading denied applicants could be employed at the time of their initial determination. This grading system would function as a means of classifying individuals as to level of ability to engage in substantial gainful activity. The same criteria used in selecting out the severely disabled could determine the degree of disability among those denied.

Not all those initially denied would need to be recalled for reassessment nor should the recall time interval be the same for all types of applicants. Based on the applicant's level of ability, his file could be classified either as not requiring review, or to be reviewed by a specified date no more than perhaps 1 year subsequent to his initial evaluation. The data needed for this grading and classification are those presently collected by the disability examiner-evaluator. They include the applicant's insured status, the nature and severity of the disease condition, the consequences of the condition in terms of ability to perform his usual work activity, and the less tangible factors of age, education, job skills, and possibility of shifting to other work.

The essential feature of this procedure would be to insure the periodic recall and reassessment of those applicants who were initially denied but who appear to be at certain levels of risk of not returning to work or, if working, of failing to achieve substantial gain.

3. It is further evident from the data that there has been a lack of continuity between the evaluative process and the utilization of

¹ Section 404.1528 of the Social Security Regulations: Rights and Benefits Based on Disability. Social Security Administration, May 1969.

physical and vocational rehabilitation services. In fact, the disability evaluation and referral system may have enhanced this hiatus since it involves an inherent conflict between "inability" (which would qualify one for compensation) and "ability" (which would justify rehabilitative training). This may be viewed as the liability of disability assessment. For both denied and allowed disability applicants, this liability may have unanticipated and adverse consequences.

Once persons have been identified as having some level of disabling disease, it would seem appropriate to maintain contact with this group in order to provide an operational link between evaluation and the rehabilitation service units. Part of this linkage system is in operation, in that the severely disabled are in current payment status. The denied applicants appear to be in need at the point of initial contact with the evaluation units. Those identified at an early stage of disabling disease are in need of immediate treatment and restorative therapy. They are apparently in a transition phase which in all likelihood will eventuate in increased severity of the condition and hence disability.

4. Another more broadly conceived recommendation is based on the social welfare concept of society's obligation to provide for persons in direct or potential need. Based on the evidence presented, it would seem advisable to liberalize the guides used to judge severity of disability.

As noted earlier, denied applicants tend toward greater dependency over time. They are handicapped economically by their inability to compete in the labor market and they appear to be limited in ability due to the progressive nature of their diseases. For some this may be a transition stage in which the evidence to support a claim of severe disability may be inconclusive. The trend that may prevail in the program's decision-making process of labeling such applicants may be that of denying the claim on the basis of current evidence, without anticipating further deleterious consequences. However, in order to provide assistance to potential disability claimants, as well as the severely disabled, it would be necessary to accept applicants' claims of lesser severity or of doubtful validity. In this respect, the program would accept a higher proportion of "false positives" (i.e., those who are not severely disabled). The sensitivity of the program's screening procedure (accepting those who are definitely disabled) might be improved while the specificity of the program (rejecting those with definite ability to engage in gainful work activity) would likely diminish. In essence, it would seem preferable to risk accepting a claimant with potential disability than to risk rejecting one who is severely disabled.

5. A final critical point might be made at this time. One of the central objectives of medical care is prevention of illness in the community. Realistically, a more focal objective is early diagnosis and treatment of disease upon recognition and identification of it in the population. In addition, rehabilitation and secondary prevention are major concerns of persons working in the health care field. In cases of chronic and potentially disabling diseases, early medical treatment and continuity of care would be likely to enhance the remission rate and minimize the extent of restorative services needed, thus increasing the chances of successful rehabilitation.

However, a major objective of the disability program is to provide benefits to those who have surpassed all of these stages, that is, when disease has resulted in severe incapacity. Identifying the disabled should not be delayed until such a critical juncture has been reached. The rationale of the program's objective should be critically appraised. Aside from this fundamental point, it is evident that an elaborate, and no doubt costly, evaluation procedure is in operation to provide a very circumscribed service: the payment of income-loss benefits to persons severely disabled and unable to engage in substantial gainful activity. It is questionable whether the procedure is justified for the achievement of such a limited goal.



BASIC DATA USED IN STUDY



TABLE 2.1
STUDY POPULATION AND SAMPLE

	Denials	Allowances	Combined
Study population size	1,278	3,114	4,392
Relative proportion	.291	•709	1.00
		1	
Study sample	735	829	1,564
Relative proportion	.470	.530	1.00
Ratio of sample to study population	•575	.266	•356
Final sampling fraction	1/1.74	1/3.76	1/2.81

TABLE 2.2

DISTRIBUTION OF TOTAL POPULATION BY SAMPLING STATUS AND GROSS DETERMINATION DATE PERIOD FOR DENIALS AND ALLOWANCES

DENIALS

S.S.A. Determination Date Period	Selected Sample Cases	Replaced Sample Cases	Not Used Cases	Total	% Selected Sample Cases
3/60 - 12/60	72	54	4	130	55.4
1/61 - 12/61	135	100	1	236	57.2
1/62 - 12/62	110	102	1	213	51.6
1/63 - 12/63	156	87	2	245	63.7
1/64 - 12/64	167	87	16	270	61.9
1/65 - 9/65	95	51	38	184	51.6
Total	735	481	62	1278	57.5

ALLOWANCES

3/60 - 12/60	61	102	10	173	35 - 3
1/61 - 12/61	170	232	199	601	28.3
1/62 - 12/62	126	114	435	675	18.7
1/63 - 12/63	236	145	251	632	37.3
1/64 - 12/64	142	68	347	557	25.5
1/65 - 9/65	94	1414	338	476	19.7
Total	829	705	1580	3114	26.6

3/60 - 12/60	133	156	14	303	43.9
1/61 - 12/61	305	332	200	837	36.4
1/62 - 12/62	236	216	436	888	26.6
1/63 - 12/63	392	232	253	877	44.7
1/64 - 12/64	309	155	363	827	37.4
1/65 - 9/65	189	95	376	660	28.6
Total	1564	1186	1642	4392	35 •6

TABLE 2.3

DISTRIBUTION OF DENIALS AND ALLOWANCES
BY SELECTED AND REPLACED STATUS

Study Status	Den	ials	Allo	wances	Comb	ined
Boddy Boardas	No.	%	No.	%	No.	%
Selected	735	60.5	829	54.0	1564	56.9
Replaced:						
Deceased	83	6.8	353	23.0	436	15.8
Out-of-area	375	30.8	340	22.2	715	26.0
Lost to follow-up	15	1.2	1	0.1	16	0.6
Other	8	0.7	11	0.7	19	0.7
Total	1216	100.0	1534	100.0	2750	100.0

DISTRIBUTION OF DENIALS AND ALLOWANCES
BY FINAL SELECTION STATUS IN SAMPLING
WITH REPLACEMENT

Final Selection	Det	nials	Allo	vances	Combi	ned
Status	No.	%	No.	%	No.	%
Initial	453	61.7	449	54.2	902	57.7
Second	172	23.4	219	26.4	391	25.0
Third	72	9.8	85	10.3	157	10.0
Fourth	28	3.8	38	4.6	66	4.2
Fifth	8	1.1	16	1.9	24	1.6
Sixth	1	0.1	10	1.2	11	0.7
Seventh or greater	1	0.1	12	1.4	13	0.8
Total	735	100.0	829	100.0	1564	100.0

TABLE 2.5

AGE AT STUDY ENTRY BY SELECTION ORDER, SELECTED STUDY SAMPLE, DENTALS AND ALLOWANCES

					02	Selection Order	n Order					
Age at		Den	Denials			Allow	Allowances			Combined	pei	
Study Entry	Initial	ial	ľ	Later	Initial	tial	LE	Later	Ini	Initial	Ĭ	Later
	No.	PQ	No.	BE	No.	86	No.	80	No.	86	No.	Be
< 35	97	3.5	5	1.8	6	5.0	7	2.9	25	8.0	16	2.4
35-39	25	5.5	9	2.1	10	9	00	2.1	35	3.9	7,7	2.1
trt-0t	32	7.1	17	5.0	19	4.2	18	7.4	51	5.7	32	4.8
64-54	26	12.4	35	12.4	38	8.5	16	4.2	46	10.4	51	7.7
50-54	77	17.0	20	17.7	57	12.7	45	11.8	134	14.9	95	14.4
55-59	95	21.0	59	20.9	83	18.5	85	22.4	178	19.7	144	21.8
49-09	109	24.0	8	28.4	182	40.5	144	38.0	291	32.2	224	33.8
69-69	43	9.5	33	7.11	51	11.4	53	13.9	46	10.4	8	13.0
Total	453	453 100.0	282	100.0	644	100.0	380	100.0	902	100.0	662	100.0

55.6

57.5

57.1

55.9

54.1

Average:

TABLE 2.6
SOCIOECONOMIC STATUS BY SELECTION ORDER,
SELECTED STUDY SAMPLE, DENIALS AND ALLOMANCES

						Selection Order	n Order					
Socioeconomic		Den	Denials			Allow	Allowances			Combined	ned	
Status	Ini	Initial	Ľ	Later	Ini	Initial	La	Later	Init	Initial	Ĩ	Later
	No.	6	No.	BQ	No.	%	No.	PS	No.	8	No.	82
Lowest quintile	178	39.4	112	39.8	746	32.4	124	32.6	324	36.0	236	35.7
Second quintile	95	21.0	77	26.2	%	19.2	80	21.1	181	20.1	154	23.3
Third quintile	49	14.2	94	16.3	95	21.2	65	17.2	159	17.6	111	16.8
Fourth quintile	89	15.0	42	8.5	65	14.5	59	15.6	133	14.8	83	12.6
Highest quintile	747	10.4	%	9.5	57	12.7	51	13.5	104	11.5	77	11.6
Total	452	452 100.0	282	282 100.0	644	0.001 944	379	379 100.0	106	901 100.0	199	0.001 199

3

9.0

9.8

3

5,4

Average SES:

TABLE 2.7

AGE DISTRIBUTION OF DENIALS AND ALLOWANCES
AT STUDY ENTRY DATE AND OF BALTIMORE S.M.S.A. POPULATION

A ===	De	nials	Allo	wances	Comb	ined	Balto. S	.M.S.A.*
Age Gr o up	No.	%	No.	%	No.	%	No. (1,000's)	%
< 35	21	2.9	20	2.4	41	2.6	48.7	15.9
35-39	31	4.2	18	2.2	49	3.1	51.7	16.9
40-44	46	6.3	37	4.5	83	5.3	48.1	15.7
45-49	91	12.4	54	6.5	145	9.3	43.2	14.1
50-54	127	17.3	102	12.3	229	14.6	37.2	12.2
55-59	154	21.0	168	20.3	322	20.6	31.8	10.4
60-64	189	25.6	326	39.3	515	33.0	25.3	8.3
65 - 69	76	10.3	104	12.5	180	11.5	19.8	6.5
Total	735	100.0	829	100.0	1564	100.0	305.8	100.9

Average:

54.5

57.2

56.0

46.3

*White males, ages 30-69, 1960. Source: U.S. Bureau of the Census. U.S. Census of Population, 1960. General Population Characteristics. Final Report PC (1), 22 B. U.S. Gov't. Prtg. Ofc., Wash., D.C., 1961. Table 20.

DISTRIBUTION BY EDUCATIONAL LEVELS
FOR DENIALS AND ALLOWANCES AND FOR BAILTMORE S.M.S.A.*

Educational	De	nials	Allo	wances	Con	bined	Balto. S	.M.S.A.
Levels	No.	%	No.	%	No.	%	No. (1,000's)	%
< 5 years	80	10.9	90	10.9	170	10.9	26.7	5.7
5-7 years	252	34.4	281	34.0	533	34.2	87.5	18.6
8 years	159	21.7	205	24.8	364	23.3	74.9	15.9
9-11 years	130	17.7	133	16.1	263	16.9	(700)	1.0.0
12 years	68	9.3	67	8.1	135	8.7	(198.4	42.0
≥ 13 years	44	5.0	50	6.1	94	6.0	84.0	17.8
Total	733	100.0	826	100.0	1559	100.0	471.5	100.0

Unknown 2 3

^{*}White males, 14 years old and over, 1960. Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. I., Characteristics of the Population, Part 22, Maryland. U.S. Gov't. Prtg. Ofc., Wash., D.C., 1963. Derived from Table 103.

TABLE 2.9

DISTRIBUTION BY OCCUPATIONAL STATUS a. PRIOR TO ONSET OF DISEASE, DENIALS AND ALLOWANCES AND BALTIMORE S.M.S.A.

Occupational	De	nials	Allo	wances	Comb	ined	Balto. S	.M.S.A.
Status	No.	%	No.	%	No.	%	No. (1,000's)	%
Prof., Mgr., & Kind. Wkrs.	82	11.2	117	14.2	199	12.8	86.2	25.1
Clerical & Sales Wkrs.	80	10.9	102	12.5	182	11.7	62.0	18.0
Crafts., Fore., & Kind. Wkrs.	212	29.0	254	31.1	466	30.0	88.2	25.7
Operatives & Kind. Wkrs.	206	28.1	202	24.6	408	26.3	66.8	19.4
Service Workers	86	11.7	86	10.4	172	11.1	18.3	5.3
Laborers	67	9.1	59	7.2	126	8.1	22.5	6.5
Total	733	100.0	820	100.0	1553	100.0	344.0	100.0

Unknown 2 9 11 18.6

a. Application (S.S.A) source for study sample.

b. Experienced civilian labor force, white males, 14 years old and over, 1960.
Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. I.,
Characteristics of the Population, Part 22, Maryland. U.S. Gov't. Prtg. Ofc.,
Wash., D.C., 1963. Derived from Table 122.

DISTRIBUTION BY NATIVITY STATUS FOR SELECTED STUDY SAMPLE AND BALITIMORE S.M.S.A.

Nativity	Der	nials	Allow	ances	Comb i	ned	Balto.	SMSA b.
Status a.	No.	%	No.	%	No.	%	No. (1,000)	%
Foreign Stock	200 488	29.1 70.9	270 519	34·2 65·8	470 1007	31.8 68.2	56 249	18.4
Total	688	100.0	789	100.0	1477	100.0	305	100.0

- a. Foreign stock includes those foreign born and those native born with foreign or mixed parentage. Native stock includes all persons of third and subsequent generations, i.e., native born of native parentage.
- b. Population figures for Baltimore SMSA, 1960, white males, between the ages of 30 and 69. Source, U.S. Bureau of the Census. <u>U.S. Census of Population: 1960. Detailed Characteristics.</u> Maryland. Final Report PC(1)-22D. (U.S.G.P.O., Wash., D.C., 1962). Derived from Tables 96 and 99.

DISTRIBUTION OF DENIALS AND ALLOWANCES BY INITIAL PRIMARY SYSTEM DIAGNOSIS

Primary System	Der	nials	Allow	vances	Comb	ined
Diagnosis	No.	%%	No.	%	No.	%
Circulatory	275	37.4	376	45.3	651	41.6
Respiratory	69	9.4	114	13.8	183	11.7
Nervous	125	17.0	208	25.1	333	21.3
Musculoskeletal	266	36.2	131	15.8	397	25.4
Total	735	100.0	829	100.0	1564	100.0

DISTRIBUTION OF DENIALS AND ALLOWANCES
BY TIME PERIOD*

TABLE 2.12

	De	nials	Allow	ances	Combi	ned
Time Period	No.	%	No.	%	No.	%.
1	327	44.5	325	39.2	652	41.7
2	188	25.6	252	30.4	440	28.1
4	220	29.9	252	30.4	472	30.2
Total	735	100.0	829	100.0	1564	100.0

*Time Period designates the relative time lapse between the date of determination and the sampling date such that time periods 1, 2, and 4 indicate that the date of determination occurred one, two, and four years prior to sampling, respectively.

TABLE 2.13

DISTRIBUTION OF SELECTED STUDY CASES BY INITIAL PRIMARY DIAGNOSIS AND SAMPLING TIME PERIOD, DENIALS AND ALLOWANCES

DENIALS

			Time	Period				
Primary Diagnosis		1		2		4	To	otal
DIAGNOSIS	No.	9/0	No.	%	No.	%	No.	%
Circulatory	120	36.7	73	38.8	82	37.3	275	37.4
Respiratory	23	7.0	19	10.1	27	12.3	69	9.4
Nervous	62	19.0	24	12.8	39	17.7	125	17.0
Musculoskeletal	122	37.3	72	38.3	72	32.7	266	36.2
Total	327	100.0	188	100.0	220	100.0	735	100.0

ALLOWANCES

Circulatory	142	43.7	116	46.1	118	46.9	376	45.3
Respiratory	44	13.5	49	19.4	21	8.3	114	13.8
Nervous	90	27.7	55	21.8	63	25.0	208	25.1
Musculoskeletal	49	15.1	32	12.7	50	19.8	131	15.8
Total	325	100.0	252	100.0	252	100.0	829	100.0

Circulatory	262	40.2	189	42.9	200	42.4	651	41.6
Respiratory	67	10.3	68	15.5	48	10.2	183	11.7
Nervous	152	23.3	79	18.0	102	21.6	333	21.3
Musculoskeletal	171	26.2	104	23.6	122	25.8	397	25.4
Total	652	100.0	440	100.0	472	100.0	1564	100.0

TABLE 2.14

AGE AT STUDY ENTRY BY PRIMARY DIAGNOSIS FOR SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

	Total	No. %	2.4	2.2	7 4.5	6.5	12.3	3 20.3	39.3	12.5	829 100.0	2
		N	8	18	37	54	102	- 168	328	100		
	Musc	BE	3.8	3.1	10.0	10.8	9.5	13.1	35.4	14.6	100.0	1
23	~	No.	7	7	13	17	12	17	9	19	130	'
ALLOWANCES	Nerv	BR	5.8	3.8	6.7	9.1	16.8	18.8	30.8	8.2	100.0	-
ALLO	N	No.	12	∞	174	19	35	33	₄₉	17	208] [
	Resp	88	1.7	2.6	1.7	4.3	13.9	23.5	42.7	9.6	100.0 208 100.0 130 100.0	
	Re	No.	N	3	α	2	91	27	64	7	11.5	
	Circ	BE	0.3	0.8	2.1	4.3	10.4	22.6	44.3	15.2	376 100.0 115	
	C	No.	Н	$^{\circ}$	ω	16	39	85	167	57	376	
	tal	88	2.9	4.2	6.3	12.4	17.2	20.9	25.7	10.4	735 100.0	
	Total	No.	IJ	33	3	91	127	154	189	92	735]	1
	Musc	88	3.4	6.8	6.7	13.9	16.2	21.4	22.1	8.3	-	
	Mu	No.	6	18	73	37	43	57	59	22	266 1	
DENTALS	Nerv	PE	7.3	6.5	7.3	14.5	16.9	16.9	23.3	7.3	100.0	
DEN.	Ne	No.	6	ω	6	18	22	덩	53	6	125	
	Resp	BS	1	1.4	4.3	8.7	9.11	24.6	34.9	14.5	100.0 125 100.0 266 100.0	
	Re	No.	1	Н	3	9	80	17	5 ф	10	69	
	Circ	BR	1.1	1.5	7.4	10.9	9.61	21.5	28.0	12.7	275 100.0	
	C	No.	3	†	13	98	54	59	7.7	35	275	`
+0	ngc an	Study Entry	< 35	35-39	₩-0t	64-54	50-54	55-59	1 9-09	69-59	Total	

TABLE 2.14 (cont.)
AGE AT STUDY ENTRY BY PRIMARY DIAGNOSIS
FOR SELECTED STUDY SAMPLE, COMBINED

					Combined	peu					ŀ
Age at	0	Circ	la la	Resp	Ž	Nerv	Æ	Musc	E E	Total	1
Study Entry	No.	BE	No.	BQ	No.	BQ	No.	80	No.	BE	
< 35	47	9.0	7	1.2	21	6.3	ħτ	3.5	Tή	2.6	
35-39	7	1.1	4	2.2	97	4.8	22	5.6	64	3.1	
tt-0t	22	3.2	2	2.7	23	6.9	34	8.6	83	5.3	
64-54	94	7.1	Ħ	5.9	37	11.11	51	12.9	145	9.3	
50-54	93	14.3	77	13.0	57	16.9	55	13.9	229	14.6	
55-59	144	22.1	††	23.9	9	18.1	74	18.7	322	20.7	
t9-09	244	37.5	73	39.7	93	28.1	105	4:92	515	32.9	
69-59	92	14.1	72	11.4	%	7.8	41	10.4	180	11.5	
Total	651	100.0	184	100.0	333	333 100.0	396	396 100.0 1564	1564	100.0	

54.1

53.6

8.73

58.0

Average:

TABLE 2.15

AGE AT STUDY ENTRY BY TIME PERIOD FOR SELECTED STUDY CASES, DENTALS AND ALLOWANCES

	Total	80	4.5	2.2	4.5	6.5	12.3	20.3	39.3	12.5	100.0
	Ĭ	No.	20	18	37	54	102	168	326	104	829
	4	8	2.4	2.4	5.5	5.2	7.1	15.5	31.6	30.6	252 100.0
ALLOWANCES		No.	9	9	13	13	18	39	80	77	252
ALIC	Period 2	₽2	1.9	1.9	3.6	5.2	15.9	18.6	4.54	7.5	100.0
	Time	No.	5	2	6	13	70	147	114	19	252
	H	B	2.8	2.2	9.4	8.6	13.5	25.2	9.04	2.5	100.0
		No.	6	_	15	28	44	82	132	ω	325
	Total	g g	2.9	4.2	6.3	12.4	17.2	20.9	25.7	10.4	100.0
	Tc	No.	21	31	94	91	127	154	189	92	735
	47	82	1.8	2.7	1.4	9.5	13.2	17.3	25.0	29.1	100.0
DENIALS	_	No.	†	9	3	Ŋ	63	38	52	79	220
DE	Period 2	8	2.7	4.8	10.1	13.3	18.6	18.6	26.1	5.8	100.0
	Time	No.	72	6	19	25	35	35	64	Ħ	188
		Вг	3.7	4.9	7.3	13.8	19.3	24.8	25.9	0.3	100.0
		No.	12	91	42	45	63	81	85	н	327
	Age at Study Entry		< 35	35-39	th-0t	64-54	50-54	55-59	19-09	69-59	Total

58.9

57.3

55.9

54.5

58.3

53.5

53.0

Average:

AGE AT STUDY ENTRY BY TIME PERIOD FOR SELECTED STUDY CASES, COMBINED

	Total	PS	2.6	3.1	5.3	9.3	14.6	20.7	32.9	11.5	100.0
	Ţ	No.	147	64	83	145	529	322	515	180	1564
	4	Se Se	2.1	2.5	3.4	7.2	10.0	16.3	28.6	29.9	472 100.0
ined	-	No.	10	12	16	34	74	77	135	141	472
Combined	Period 2	PQ	2.3	3.6	6.4	8.6	17.0	18.6	37.1	6.8	0.001 044
	Time	No.	10	14	28	38	75	82	163	30	044
	П	PS	3.2	3.5	5.9	11.2	16.4	25.0	33.4	1.4	100.0
		No.	27	23	39	73	107	163	217	6	652
	Age at	Donay Times	< 35	35-39	††-0†	64-54	50-54	55-59	19-09	69-49	Total

Average: 54.5 55.7 58.7

26.0

TARTE 2 16

COMPARISON OF AVERAGE ACES AT ONSET OF DISEASE, DETERMINATION DATE, AND STUDY ENTRY DATE, DENIALS AND ALLOWANCES

Study		Average age at:		Difference between:	between:
Group	Onset of Disease	Onset of Determination Study Entry Disease Date Date	Study Entry Date	Onset & Determination Determination	Determination & Study Entry
Denials	51.3	52.9	54.5	1.6	1.6
Allowances	53.9	55.1	57.2	1.2	2.1
Combined	52.7	54.0	26.0	1.3	2.0

TABLE 2.17

DISTRIBUTION OF SELECTED STUDY CASES BY STATUS IN STUDY AND INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

DENIALS

			F	rimary I	Diagnos	is				
Study Status	Circu	ılatory	Respi	ratory	Ner	vous	Musc skel	ulo- etal	To	otal
	No.	%	No.	%	No.	%	No.	%	No.	%
Interview & PE	197	71.7	52	75.4	94	75.2	210	79.0	553	75.3
Interview Only	62	22.5	14	20.3	20	16.0	41	15.4	137	18.6
Refusal	16	5.8	3	4.3	11	8.8	15	5.6	45	6.1
Total	275	100.0	69	100.0	125	100.0	266	100.0	735	100.0

ALLOWANCES-

Interview & PE	250	66.5	85	74.5	160	76.9	95	72.5	590	71.2
Interview Only	106	28.2	27	23.7	37	17.8	30	22.9	200	24.1
Refusal	20	5.3	2	1.8	11	5.3	6	4.6	39	4.7
Total	376	100.0	114	100.0	208	100.0	131	100.0	829	100.0

Interview & PE	447	68.7	137	74.9	254	76.3	305	76.8	1143	73.1
Interview Only	168	25.8	41	22.4	57	17.1	71.	17.9	337	21.5
Refusal	36	5.5	5	2.7	22	6.6	21	5.3	84	5.4
Total	651	100.0	183	100.0	333	100.0	397	100.0	1564	100.0

TABLE 2.18

DISTRIBUTION OF SELECTED STUDY CASES BY STATUS IN STUDY AND SAMPLING TIME PERIOD, DENIALS AND ALLOWANCES

DENIALS

CI 3			Time	Period			-	
Study Status		1		2		4	To	tal
Doa cus	No.	%	No.	%	No.	%	No.	%
Interview & PE	251	76.8	142	75.5	160	72.7	553	75.3
Interview Only	55	16.8	.37	19.7	45	20.5	137	18.6
Refusal	21	6.4	9	4.8	15	6.8	45	6.1
Total	327	100.0	188	100.0	220	100.0	735	100.0

ALLOWANCES

Interview & PE	252	77.6	175	69.4	163	64.6	590	71.2
Interview Only	58	17.8	68	27.0	74	29.4	200	24.1
Refusal	15	4.6	9	3.6	15	6.0	39	4.7
Total	325	100.0	252	100.0	252	100.0	829	100.0

Interview & PE	503	77.2	317	72.0	323	68.4	1143	73.1
Interview Only	113	17.3	105	23.9	119	25.2	337	21.5
Refusal	36	5.5	18	4.1	30	6.4	84	5.4
Total	652	100.0	440	100.0	472	100.0	1564	100.0

TABLE 2.19

AGE AT STUDY ENTRY BY STUDY RESULTS FOR SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Study Entry Clinic PE Non-Clinic Non	-		Τ.						1
Entry Entry		Total	% on	38 100.0	91 100.0	270 100.0	430 100.0	829 100.0	57.2
Entry Entry		Refusal	No. %	1 2.6	5 5.5	10 3.7	23 5.3	39 4.,*	58,3
Entry Entry	ALLOWANCES	Interview Only	No. %	9 23.7	10 11.0	65 24.1	116 27.0	200 24.1	58.5
Entry Entry		erview &	PE %	8 21,1	5 16.5	5 13.3	1 9.5	0 12.1	5.1
Entry Entry		ew Inte	% No	9.	.0	.9	.2 4	.1	5.5
Entry Entry		ntervi &	1111C	20 52	61 67	59 58	50 58	90 59	57.1
Entry Entry			No. % N	52 100.0	137 100.0	281 100.00 1	265 100.0 2	735 100.0 4	54.7
Entry Entry		Refusa1	No. %	3 5.8	8 5.8	18 6.4	16 6.0	45 6.1	55.1
Entry Entry	DENIALS	nterview Only	% .0	6 11 9	19 13.9	49 17.4	63 23.8	37 18.6	57.0
Entry Entry		ew & In	%	7.7	5.8	6.4	0.9	6.3 1	
Entry Entry		ntervi Ion-Cli	No.	4	8	18	16	94	54.0
Entry Entry		rview I	% %	75.0	74.5	8.69	64.2	0.69	
Entr Entr		Inte		39	102	196	170	507	54.1
		Age at Study Entry		07 >	67-07	50-59	69-09	Total	Average Age:

TABLE 2.19 (cont.)
AGE AT STUDY ENTRY BY STUDY RESULITS
FOR SELECTED STUDY SAMPLE, BOTH

				CON	COMBINED					
Age at Study Entry	Inter & Clini	Interview & Clinic PE	Interv Non-Cl	Interview & Non-Clinic PE	Inte	Interview Only	Refu	Re fusal	Total	a1
	No.	%	No.	%	No.	%	No.	%	No.	%
> 40	59	65.6	12	13.3	15	16.7	7	4.4	06	100.0
67-07	163	71.5	23	10.1	29	12.7	13	5.7	228	100.0
50-59	355	64.4	54	8.6	114	20.7	28	5.1	551	100.0
69-09	420	7*09	57	8.2	179	25.8	39	5.6	695	100.0
Total	266	997 63.8 146	146	9.3	337	21.5 84	84	5.4	1564	100.0

9.95

57.9

54.7

55.6

Average

TABLE 2.20
EDUCATIONAL LEVELS BY STUDY RESULTS
FOR SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

	Total	No. %	11 3.0 371 100.0	13 6.3 205 100.0	13 6.5 200 100.0	1 2.0 50 100.0	38 4.6 826 100.0	7.9
	al	%	3.0	6.3	6.5	2.0	4.6	3
	Refusal	No.	11	13	13	П	38	8.3
ALLOWANCES		%	25.6	20.5	23.5	16 32.0	200 24.2	8.0
TEOW	Inte	No.	95	42	47	16	200	80
Ą	Interview & Interview Non-Clinic Only PE	%	11.3	12.2	10.0	24.0	99 12.0	3
	Inte Non-	No.	42	25	20	12	66	8.3
	Interview & Clinic PE	No. %	223 60.1	125 61.0	0.09 021	21 42.0	489 59.2	7.8
	Total	No. %	63 19.0 19 5.7 332 100.0 223 60.1	27 17.0 12 7.5 159 100.0 125 61.0	34 17.2 10 5.0 198 100.0 120 60.0	12 27.3 4 9.1 44 100.0 21 42.0	136 18.6 45 6.1 733 100.0 489 59.2	8.0
	Refusal	%	5.7	7.5	5.0	9.1	6.1	8.3
	Refu	% No.	19	12	10	4	45	00
DENIALS	terview Only		19.0	17.0	17.2	27.3	18.6	8.1
DEN	Int	No.	63	27	34	12	136	
	Interview Interview & Interview & Non-Clinic PE PE	%	9.9	5.7	7.6	;	6.3	7.7
	Inte Non	No.	22	6	15	!	94	
	Interview & Clinic PE	%	228 68.7	8.69	70.2	28 63.6	506 69.0 46	7.9
	Inte	No.	228	111	139	28	909	'
	Educational Levels		< 8 Yrs.	8 Years	9-12 Yrs.	≥ 13 Years	Total	Average:

Unknown:

TABLE 2.20 (cont.)

EDUCATIONAL LEVELS BY STUDY RESULTS FOR SELECTED STUDY SAMPLE, COMBINED

	a1	%	100.0	100.0	100.0	100.0	100.0	
	Total	No.	703	364	398	96	1559	
	ial	%	4.3	6.9	5.8	5.3	83 5.3	
	Refusal	No.	30	25	23	5	83	
e	terview Only	%	22.5	19.0	20.4	29.8	336 21.6	
COMBINED	Interview Only	No.	158	69	81	28	336	
	Interview & Non-Clinic PE	%	9.1	9.3	8.8	12.8	9.3	
	Interv Non-C1 PE	No.	79	34	35	12	145	
	Interview & Clinic PE	%	64.1	8.49	0.59	52.1	995 63.8 145 9.3	
	Interv & Clinic	No.	451	236	259	65	995	
	Educational Levels		< 8 Years	8 Years	9-12 Years	≥ 13 Years	Total	

8.0

8.1

7.8

Average Unknown

TABLE 2.21

STUDY RESULTS BY OCCUPATIONAL STATUS*, SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

				Denials	lals						A	Allowances	es			
Occupational Status	Inte	Interview & PE	Inte	Interview Only	Ref	Refusal	.O.I	Total	Inte	Interview & PE	Inte On	Interview Only	Ref	Refusal	To.	Total
	No.	%	No.	<i>8</i> €	No.	%	No.	%	No.	%	No.	of O	No.	PS.	No.	PS
Prof., Mgr., & Kind. Wkrs.	57	9.69	23	28.0	CI	2.4	82	100.0	77	4.99	32	27.6	_	6.0	116	100.0
Clerical & Sales Wkrs.	52	0.59	50	25.0		10.0	8	100.0	70	9.89	27	8.5	5	6.4	102	100.0
Crafts., Fore., & Kind. Wkrs.	162	4.97	37	17.5	13	6.1	212	100.0	188	74.1	58	22.8	ω	3.1	254	100.0
Operatives & Kind. Wkrs.	160	7.77	32	15.5	1,4	6.8	206	100.0	140	0.69	52	25.6	Ħ	5.4	203	100.0
Service Workers	70	81.4	11	12.8	72	5.8	8	100.0	68	0.62	12	14.0	9	7.0	%	100.0
Laborers	51	76.1	13	19.4	М	4.5	29	100.0	7	67.8	17	28.8	C/J	3.4	65	100.0
Total	552	75.3	136	18.6	45	6.1	733	100.0	583	71.1	198	24.1	39	4.8	820	100.0
Unknown	н		Н				N		7		a				6	

* Data from previous records

TABLE 2.21 (cont.)
STUDY RESULTS BY OCCUPATIONAL STATUS*,
SELECTED STUDY SAMPLE, COMBINED

	Occupational Status		Prof., Mgr. & Kind. Wkrs	Clerical & Sales Wkrs.	Crafts., Fore., & Kind. Wkrs.	Operatives & Kind. Wkrs.	Service Workers	Laborers	Total
	Intervi & PE	No.	134	122	350	300	138	91	1135
	Interview & PE	%	7.79	67.1	75.1	73.4	80.2	72.2	73.1
	Inte	No.	55	14	95	48	23	8	334
Combined	Interview Only	PS	27.8	25.8	20.4	20.5	13.4	23.8	21.5
peu	Ref	No.	6	13	12	25	11	2	48
	Refusal	82	4.5	7.1	4.5	6.1	4.9	4.0	5.4
	To	No.	198	182	9911	604	172	126	
	Total	PS	100.0	100.0	100.0	100.0	100.0	100.0	1553 100.0

* Data from previous records

ω

Unknown

11

TABLE 2.22

PHYSICAL EXAMINATION STATUS: INITIAL RESPONSE COMPARED WITH FINAL DISPOSITION, INTERVIEWED SAMPLE ONLY, DENIALS AND ALLOWANCES

DENIALS

Final P.E. Status	Clinic P.E. OK No. %	Initial Res. Non-Clinic P.E. OK No. % 1 5.3	Initial Response to P.E. Request Profit Prefuse Univ. E. OK P.E. at Oc. % No. % No. 1 S.3 S.3	equest Unknown at Time No. %	Total No. % 507 73.4
Non-Clinic P.E. Refuse P.E.	26 4.4	15 78.9	3 4.8	2 13.3	
L.M.D. Disapprove Unavailable for P.E.	8 1.3	1 1	. s	1 1	8 8 1.2
Total	594 100.0	19 100.0	62 100.0	15 100.0	690 100.0

ALLOWANCES

			NOTIFIED IN	HILLOW HIVERD						
Clinic P.E.	482	79.8	CJ CJ	2.1	m	8.4	m	11.1	1490	62.0
Non-Clinic P.E.	30	5.0	65 67	67.0	Н	1.6	77	14.8	100	12.7
Refuse P.E.	99	9.01	19 19	9.61	58	93.6	17	63.0	160	20.3
L.M.D. Disapprove	18	3.0	8	8.2	1		CI	7.4	28	3.5
Unavailable for P.E.	Φ	г.3	m	3.1	ŧ	1	H	3.7	12	1.5
Total	409	604 100.0	0.001 79	0.0	62	62 100.0	27	27 100.0	790	790 100.0

TABLE 2.22 (cont.)
PHYSICAL EXAMINATION STAIUS: INITIAL RESPONSE COMPARED WITH FINAL DISPOSITION, INTERVIENED SAMPLE ONLY, COMBINED

		Initial Res	Initial Response to P.E. Request	equest	
Final P.E. Status	Clinic P.E. OK	Non-Clinic P.E. OK	Refuse P.E.	Unknown at Time	Total
	No. %	No. %	No. %	No. %	No. %
Clinic P.E.	978 81.5	3 2.6	8 6.5	8 19.0	997 67.3
Non-Clinic P.E.	7.4 95	80 68.9	4 3.2	6 14.3	146 9.9
Refuse P.E.	124 10.4	22 19.0	7.88 011	25 59.5	281 19.0
L.M.D. Disapprove	2,2	8 6.9	ı	2 4.8	36 2.4
Unavailable for P.E.	1,2	3 2.6	2 1.6	1 2.4	20 1.4
Total	0.001 8611	0.001 211	124 100.0	42 100.0	1480 100.0

LOCATION OF PHYSICAL EXAMINATION BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

DENIALS

Total	8€		35.9	42.3	13.4		8.0	4.0	100.0
υŪ	No.		199	234	7/		44	CI	553
Musc	BQ		36.7	42.8	12.9		7.1	0.5	210 100.0
M	No.		77	8	27		15	н	210
Nerv	BQ		31.2	0.44	15.1		9.8	1.1	0.001 46
Ŋ	No.		8	41	17		80	Н	46
Resp	₽¢		34.6	16.2	11.5		7.7	-	100.0
Ŗ	No.		18	54	9		4	ı	52 1
Circ	PS		37.6	40.1	13.7		9.8	-	100.0
ט	No.		74	79	27		17	1	197
Tocation of P.E.	THE THE THE THE	Special Clinic	Johns Hopkins	University Hospital	Maryland General8.	Other Sites	Home	Hospital or other institution	Total

ALLOWANCES

	37.9	35.8	9.3		15.3	1.7	100.0
	224	211	55		96	10	290
	37.2	36.2	7.4		18.1	1.1	100.0
	35	34	7		17	Н	46
	33.5	36.6	5.0		19.9	5.0	100.001
	54	59	∞		32	∞ .	161
	42.4	24.7	17.6		15.3	1	100.00
	%	21	15		13	ı	85
	39.68	38.8	10.0		11.2	0.4	100.0
	66	97	25		28	Н	250
Special Clinic	Johns Hopkins	University Hospital	Maryland Generala.	Other Sites	Home	Hospital or other institution	Total

TABLE 2.23 (cont.)

LOCATION OF PHYSICAL EXAMINATION BY INITIAL PRIMARY DIAGNOSIS, COMBINED

Total	82		37.0	38.9	11.3		11.7	1.1	304 100.0 1143 100.0
-	No.		423	7445	129		134	12	1143
Musc	BQ		36.8	8.04	11.2		10.5	7.	100.0
Z	No.		112	124	34		32	a	
Nerv	%		32.7	39.4	8.7		15.7	3.5	255 100.0
Ň	No.		ಹೆ	100	22		710	6	255
Resp	B		39.5	32.8	15.3		12.4	i	137 100.0
R	No.		54	45	21		17	1	
Circ	BC		38.7	39.4	9.11		10.1	oi.	0.001 744
10	No.		173	176	52		45	Н	244
	Location of F.E.	Special Clinic	Johns Hopkins	University Hospital	Maryland Generala.	Other Sites	Home	Hospital or other institution	Total

a. Maryland General had two clinic locations--one at the same-named hospital and the other at the Pulmonary Functions Laboratory, University Hospital.

DENIALS

TIME INTERNAL BETWEEN INTERVIEW AND PHYSICAL EXAMINATION DATES BY LOCATION OF PHYSICAL EXAMINATION, SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Total	Be	32.2	51.1	0.9	2.9	2,5	2.0	1.1	2.5	100.0	CJ		29.8	51.1	. 6.3	1.9	3.7	1.7	0.8	7.4	100.0	
To	No.	178	283	33	16	12	11	9	17	553	1.2		176	301	37	Ħ	22	10	10	58	290	
er	PQ	100.0	ı	ı	ı	ı	,	,	ı	100.0			50.0	20.0	ı	ı	20.0	10.0	ı	ı	100.0	
Other Institution	No.	N	1	ı	ı	1	1	ı	ı	CU	1		2	CJ	ı	ı	CA	Н	1	ı	10	
Ноте	PQ	6.8	18.3	1.6	15.9	15.9	15.9	4.5	13.6	100.0	3.9		4.4	20.0	18.9	6.7	14.4	8.9	4.4	22.3	100.0	
Ħ	No.	8	80	4	7	7	7	N	9	7777	3		4	18	17	9	13	∞	4	20	8	
Maryland General	₽°	31.1	63.4	4.1	1.4	ı	ı	ı	ı	100.0	m	NCES	40.0	58.2	1.8	ı	ı	ı	ı	ı	100.0	
Mar Gen	No.	23	147	3	H		ı	ı	t	74	0.8	ALLOWANCES	22	32	Н		1	ı	ı	1	55	
University Hospital	PQ	33.8	54.2	4.7	2.1	6.0	6.0	1.3	2.1	100.0			37.4	56.0	2.4	1.9	1.4	ı	ı	6.0	100.0	
Unive	No.	79	127	T	5	Ø	C/I	\sim	5	234	1.1		79	118	5	4	~	ı	ı	CV	21.1	
Johns Hopkins	B	35.7	50.8	7.5	1.5	1.5	1.0	6.0	1.5	100.0	0		29.5	58.5	6.3	· 4°0	1.8	ή·0	₫.	2.7	100.0	
Jo	No.	17	101	15	3	3	Ø	Н	\sim	199	1.0		99	131	17	Н	4	Н	Н	9	224	
Time Interval	(Months)	\ \	Н	CU	m	†	5	9	+ _	Total	Average:		ri V	Н	CJ	т	#	5	9	+ _	Total	

9.0

0.0

7.7

Average:

TABLE 2.24 (cont.)
TIME INTERVAL BETWEEN INTERVIEW AND PHYSICAL EXAMINATION DATES
BY LOCATION OF PHYSICAL EXAMINATION, SELECTED STUDY SAMPLE, COMBINED

COMBINED

Total	BC	31.0	51.0	6.1	2.4	3.0	1.8	1.0	3.7	1143 100.0
Tot	No.	354	584	70	27	34	27	11	745	1143
Other Institution	800	58.3	16.7	ı	1	16.7	8.3	1	ı	100.0
Ot Insti	No.	7	CV	ı	1	N	Н	1	1	7.2
Ноте	pg/	5.2	19.4	15.7	7.6	14.9	11.2	4.5	19.4	100.0
H	No.	_	8	12	13	20	15	9	%	134
Maryland General	B	34.9	61.2	3.1	0.8	,	ı	1	ı	129 100.0
Mar	No.	45	79	4	Н	ı	1	1	1	129
University Hospital	B	35.5	55.1	3.6	2.0	1.1	4.0	7.0	1.6	0.001 744
Unive	No.	158	245	91	6	5	Ø	∞	7	445
Johns Hopkins	26	32.4	54.8	6.9	6.0	1.7	7.0	0.5	2.1	423 100.0
Jol	No.	137	. 232	65	7	7	\sim	CU	0/	423
Time Interval	(Months)	۲ >	П	M	m	4	2	9	+ _	Total

1.3

4.2

0.7

6.0

1.1

Average:

TABLE 2.25

PHYSICIAN, TRANSPORTATION AND REIMBURSEMENT FACTORS IN CLINIC ARRANGEMENTS, DENIALS AND ALLOWANCES

Clinic Arrangement	Den	ials	Allow	ances	Combi	ned
Factors	No.	%	No.	%	No.	%
				·		
Physician Involvement						
No LMD involved	104	18.8	12	2.0	116	10.1
LMD approve	441	79.7	550	93.2	991	86.7
IMD not approve	8	1.5	28	4.8	36	3.2
Clinic Transportation						
Not provided	263	47.6	242	41.0	505	44.2
Provided	290	52.4	348	59.0	638	55.8
Reimbursement of Wages						
Not required	499	90.2	583	98.8	1082	94.7
Required	54	9.8	7	1.2	61	5.3
Total No.	553	100.0	590	100.0	1143	100.0

TABLE 2.26

TOTAL NUMBER OF CONTACTS REQUIRED FOR FINAL DISPOSITION OF CASES: SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Total Number	Den:	ials	Allov	vances	Comb:	ined
of Contacts	No.	%	No.	%	No.	%
1	219	29.8	379	45.6	598	38.2
2	198	26.9	221	26.7	419	26.8
3	145	19.7	117	14.1	262	16.8
1,	68	9.3	58	7.0	126	8.1
5	44	6.0	27	3.3	71	4.5
6+	61	8.3	27	3.3	88	5.6
Total	735	100.0	829	100.0	1564	100.0

Average: 2.7 2.1 2.4

TABLE 2.27

INTERVIEW TIME FOR SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Interview	Dei	nials	Allo	vances	Comb	ined
Time	No.	%	No.	%	No.	%
< 45 min.	40	5.8	36	4.6	76	5.1
45 min. < 1 hr.	185	26.8	216	27.3	401	27.1
1 < 1-1/4 hr.	249	36.1	267	33.8	516	34.9
1-1/4 < 1-1/2 hr.	143	20.7	183	23.2	326	22.0
≥ 1-1/2 hr.	73	10.6	88	11.1	161	10.9
Total	690	100.0	790	100.0	1480	100.0

Average: 1 hr. 7 min. 1 hr. 8 min. 1 hr. 8 min. N.A: 45 39 84

TABLE 2.28 TIME OF DAY INTERVIEW COMPLETED
FOR SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Time of	Der	nials	Allov	rances	Comb	ined
Day	No.	%	No.	%	No.	%
Morning	237	34.3	265	33.5	502	33.9
Afternoon	388	56.3	475	60.2	863	58.3
Evening	65	9.4	50	6.3	115	7.8
Total	690	100.0	790	100.0	1480	100.0
N.A.	45		39		84	

DAY OF WEEK INTERVIEW COMPLETED FOR SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

TABLE 2.29

Day of	Den	ials	Allo	vances	Comb	ined
Week	No.	%	No.	%	No.	%
Monday	123	17.8	155	19.5	278	18.7
Tuesday	139	20.2	173	22.0	312	21.2
Wednesday	116	16.8	151	19.1	267	18.0
Thursday	132	19.1	136	17.2	268	18.1
Friday	116	16.8	108	13.7	224	15.1
Sat. or Sun.	64	9.3	67	8.5	131	8.9
Total	690	100.0	790	100.0	1480	100.0

N.A. 45 39 84

TABLE 3.1

AGE-ADJUSTED LIFE TABLE ANALYSIS OF SURVIVORSHIP OF TOTAL STUDY SAMPLE, DENIALS AND ALLOWANCES

DENIALS

ALLOWANCES

	T	OTAL (N = 12]	5)	r	TOTAL (N = 1	534)
X	ADJ. QX	ADJ. PX	ADJ. CUM P	ADJ. QX	ADJ. PX	ADJ. CUM P
6	.004	.996	.996	.083	.917	.917
12	.003	.997	.994	.123	.877	.804
18	.003	-997	.991	.044	.956	.767
24	.009	.991	.982	.061	.939	.719
30	.002	.998	.981	.032	.968	.696
36	.000	1.000	.980	.012	.988	.687
42	.002	.998	.978	.108	.892	.613
48	.014	.986	.966	.131	.869	.530
	1	1	1	1	1	1

LEGEND FOR LIFE TABLE

- X = Upper limit of followup interval (number of months) between disability determination date and study entry date. X-n is the beginning of the interval.
- OX = Number of persons at beginning of interval X-n.
- WX = Number of withdrawals during the interval (X-n to X).
- DX = Number of deaths during the interval (X-n to X).
- QX = Probability that person alive at beginning of interval (X-n) will die before end of interval (X).
- ADJ QX = Age-adjusted probability of dying from X-n to X.
 - PX = Probability of survival from X-n to X.
- ADJ PX = Age-adjusted probability of survival from X-n to X.
- CUM P = Probability of survival from beginning of first interval to X.
- ADJ CUM P = Age-adjusted probability of survival from beginning of first interval to X.

TABLE 3.2

AGE-ADJUSTED LIFE TABLE ANALYSIS^{a.} OF SURVIVORSHIP OF TOTAL STUDY SAMPLE BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

		DENIALS			ALLOWANCES	
1 1	С	IRC. (N =	455)	С	IRC. (N =	759)
Х	ADJ. QX	ADJ. PX	ADJ. CUM P	ADJ. QX	ADJ. PX	ADJ. CUM P
6	.002	.998	.998	.132	.868	.868
12	.004	.996	.993	.154	.846	.733
18	.004	.996	.989	.062	.938	.688
24	.012	.988	.979	.048	.952	.650
30	.000	1.000	.978	.036	.964	.629
36	.000	1.000	.978	.020	.980	.616
42	.001	.999	.977	.189	.811	.492
48	.021	.979	.956	.222	.778	.380
	R	ESP. (N =	111)	R	ESP. (N =	211)
6	.001	.999	.999	.049	.951	.951
12	.006	.994	.993	.045	.955	.907
18	.000	1.000	.993	.070	.930	.846
24	.042	.958	.951	.175	.825	.707
30	.001	.999	.950	.000	1.000	.707
36	.002	.998	.948	.000	1.000	.707
42	.007	.993	.942	.002	.998	.705
48	.000	1.000	.942	.020	.980	.690
	N	ERV. (N =	193)	N	ERV. (N =	358)
6	.015	.985	.985	.015	.985	.985
12	.002	.998	.982	.095	.905	.891
18	.008	.992	.974	.006	.994	.886
24	.001	.999	.973	.010	.990	.877
30	.004	.996	.969	.043	.957	.837
36.	.000	1.000	.969	.014	.986	.827
42	.002	.998	.967	.008	.992	.821
48	.000	1.000	.967	.004	.996	.818
	М	USC. (N =	456)	М	USC. (N =	206)
6	.000	1.000	1.000	.002	.998	.998
12	.001	.999	.999	.002	.998	.997
18	.001	.999	.998	.007	.993	.990
24	.001	.999	.997	.010	.990	.981
30	.002	.998	.995	.005	.995	.976
36	.000	1.000	.995	.000	1.000	.976
1.0	.003	.997	.992	.000	1.000	.976
42	.003	.,,,,	.,,,,			

Refer to the footnote in Table 3.1 for an explanation of the column heading symbols.

TABLE 3.3

LIFE TABLE ANALYSIS⁸OF THE SURVIVORSHIP OF INITIALLY SAMPLED CASES FOR EACH INITIAL PRIMARY DIAGNOSIS CATEGORY, DENIALS AND ALLOMANCES

ALL DISEASES

			DENTALS	ស្ន					ALLOW	ALLOWANCES		
ğ		WX	DX	ΧĊ	PX	CUM P	XO	MX	ΣΩ	ĕ	PX	CUM P
760		22	77	.015	.985	.985	827	덩	51	.062	.938	.938
727	_	599	70	710.	.983	.968	755	262	44	.071	.929	.871
7	418	70	9	.015	.985	456.	644	0	27	090.	046.	.819
<u></u>	705	163	6	.028	.972	.927	422	204	15	740.	.953	.781
O.I	230	Н	7	.030	.970	.899	203	7	11	.055	.945	.738
ΩI.	222	m	т	410.	986.	.887	187	0	12	790.	.936	069.
O.J	216	91	4	610.	.981	.870	175	0	10	.057	.943	.651
	196	193	\sim	.030	.970	.844	165	156	6	.103	.897	.584
ı												

a. Refer to the footnote in Table 3.1 for an explanation of the column heading symbols.

TABLE 3.3 (cont.)

LIFE TABLE ANALYSIS OF THE SURVIVORSHIP OF INITIALLY SAMFLED CASES FOR EACH INITIAL PRIMARY DIAGNOSIS CATEGORY, DENIALS AND ALLOMANCES

CIRCULATORY DISEASE

CUM P	.919	.858	797.	.752	902.	.630	.583	.539
PX	616.	.935	.929	.943	.939	168.	.927	426.
ΧÖ	.081	.065	.071	.057	.061	.109	.073	920.
DX	33	20	91	6	9	10	9	3
WX	80	124	0	66	N	0	0	73
XO	604	368	224	208	100	92	82	92
CUM P	626.	.961	.931	168.	.879	.867	.842	.789
PX	626.	.982	.968	756.	786.	786.	.971	.938
ΧÖ	.021	.018	.032	.043	.013	.013	.029	.062
DX	9	4	5	5	Н	Ч	CI	CU
WX	8	113	ϵ	69	Н	Н	6	09
XO	290	276	159	151	77	75	73	62
×	9	12	18	42	30	36	742	48
	OX WX DX QX PX CUMPOX WX DX QX PX CUM	OX WX DX CUM P OX WX DX EX CUM P 290 8 6 .021 .979 .979 409 8 33 .081 .919 .919	OX WX DX CVM P OX WX WX WX FX CVM P 290 8 6 .021 .979 .979 .409 8 33 .081 .919 .919 276 113 4 .018 .962 .961 368 124 20 .935 .958	OX WX DX CUM P CUM P OX WX DX FX CUM P 290 8 6 .021 .979 .979 409 8 33 .081 .919 .919 276 113 4 .018 .962 .961 368 124 20 .065 .935 .858 159 3 5 .032 .968 .931 224 0 16 .071 .929 .797	OX WX DX CUM P CUM P OX WX DX FX CUM P CUM P CUM P PX DX PX PX CUM P PX DX OX PX CUM P PX PX	290 8 .021 .979 .970 .979 .970 .970 .979 .775 177 1 1 .013 .987 .879 100 2 6 .051 .943 .775	290 8 0.21 979 979 409 8 33 0.81 979 979 276 1.13 4 0.018 982 992 184 20 0.65 935 858 151 679 7 0.92 991 224 0 16 0.71 929 793 752 151 69 5 0.043 957 891 208 99 9 0.57 943 .752 77 1 1 0.13 .987 .887 100 2 6 .051 .943 .752 77 1 1 0.13 .987 .887 100 10 10 .989 .990 <td>290 8 0.02 1.04 0.07 979 979 409 8 33 0.081 979 979 276 1.13 4 0.018 9.92 9.94 189 184 20 0.05 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.94 7.94</td>	290 8 0.02 1.04 0.07 979 979 409 8 33 0.081 979 979 276 1.13 4 0.018 9.92 9.94 189 184 20 0.05 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.95 9.94 7.94

RESPIRATORY DISEASE

CUM P	.938	048.	797.	.797	.797	.797	.750	.513
X	.938	.895	646.	1.000	1.000	1.000	146.	.684
χb	.062	.105	.051	000.	000.	000.	.059	.316
DX	7	6	m	0	0	0	Н	m
WX	3	36	0	38	П	0	0	13
XO	114	104	59	96	18	17	17	91
CUM P	.973	546.	.942	006.	+78.	.823	.823	.823
PX	.973	.968	1.000	926.	.971	.941	1.000	1.000
ХÔ	.027	.032	000.	440.	.029	.059	000.	0000
DX	Ø	N	0	C/I	П	C/I	0	0
WX	Ø	91	0	76	0	0	C/I	30
XO	75	77	53	53	35	34	32	30
×	9	12	18	54	30	36	742	48

TABLE 3.3 (cont.)

LIFE TABLE ANALYSIS OF THE SURVIVORSHIP OF INITIALLY SAMPLED CASES FOR EACH INITIAL PRIMARY DIAGNOSIS CATEGORY, DEWIALS AND ALLOMANCES

NERVOUS DISEASE

		DENIALS						ALLOWANCES	NCES		
XM		DX	Xò	Xd	COM P	XO	MX	ΣŒ	Xb	PX	COM P
80		તા	.018	.982	.982	198	8	8	.041	.959	.959
45		Н	.012	.988	076.	182	63	T	.073	.927	.889
Ø		0	000.	1.000	026.	108	0	7	.065	.935	.831
18		Ø	.042	.958	.930	101	45	77	.051	646.	.789
0		CJ	.054	946.	.879	52	П	$_{\odot}$.058	.942	.743
Н		0	000.	1.000	.879	84	0	Ø	.042	.958	.712
т		Ø	.062	.938	.825	947	0	m	.065	.935	.665
56		0	000.	1.000	.825	43	7,40	m	.130	.870	.579
	l										

MUSCULOSKELETAL DISEASE

×	ΧO	WX	DX	X	X	COM P	XO	WA	XC	ΧΌ	FX	CUM P
9	280	4	Н	700.	966.	966.	300	N	6	.029	176.	.971
12	275	125	m	.014	986.	.982	101	39	77	640.	.951	426.
18	147	5	П	700.	.993	916.	58	0	Н	710.	.983	.908
24	141	9	0	0000	1.000	926.	57	22	Ø	.043	756.	.868
30	81	0	$_{\odot}$.037	.963	.939	33	П	CJ	.062	.938	.815
36	78	П	0	000.	1.000	.939	30	0	0	000.	1.000	.815
42	77	Ø	0	000.	1.000	.939	30	0	0	000.	1.000	.815
4.8	75	477	Н	.026	4776.	.915	30	98	0	000.	1.000	.815
			-		-	-						

TABLE 4.1

DISTRIBUTION BY TYPE OF HOUSING,
DENIALS AND ALLOWANCES

	De	nials	Allo	wances	Com	bined
Type of Housing	No.	%	No.	%	No.	%
House - single unit	181	26.2	238	30.1	419	28 - 3
House - multi-unit	248	36.0	325	41.2	573	38.8
Apartment unit	150	21.7	144	18.2	294	19.9
Other types	106	15.4	71	9.0	177	11.9
Institution	5	0.7	12	1.5	17	1.1
Total	690	100.0	790	100.0	1480	100.0

TABLE 4.2

DISTRIBUTION BY NUMBER OF ROOMS
IN HOUSEHOLD,* DENIALS AND ALLOWANCES

No. Rooms	De	nials	Allo	wances	Com	bined
in Household	No.	%	No.	%	No.	%
1 - 2	62	9.1	41	5.3	103	7.1
3 - 4	167	24.4	168	21.8	335	23.0
5 - 6	312	45.9	441	57.0	753	51.8
7 or more	141	20.6	123	15.9	264	18.1
Total	682	100.0	773	100.0	1455	100.0

Average: 5.1 5.3 5.2

^{*}Excluding those residing in an institution and unknowns.

TABLE 4.3

HOUSEHOLD COMPOSITION OF SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Household	Dei	nials	Allo	vances	Com	bined
Composition	No.	%	No.	%	No.	%
Alone	73	10.7	63	8.1	136	9.3
Wife only	205	30.0	268	34.5	473	32.5
Wife & children	215	31.4	257	33.1	472	32.3
Wife & others*	26	3.8	54	7.0	80	5.5
Children	28	4.1	31	4.0	59	4.0
Others*	137	20.0	103	13.3	240	16.4
Total	684	100.0	776	100.0	1460	100.0

^{* &#}x27;Others' may include other related or non-related individuals.

TABLE 4.4 DISTRIBUTION BY HEAD OF HOUSEHOLD, DENIALS AND ALLOWANCES

Head of	De	nials	Allo	wances	Con	nbined
Household	No.	%	No.	%	No.	%
Subject only in unit	73	10.6	63	8.0	136	9.2
Subject as head	472	68.9	561	71.1	1033	70.0
Spouse, Sib, or Offspring	26	3.8	52	6.6	78	5.3
Other relative	44	6.4	62	7.9	106	7.2
Non-related	66	9.6	39	4.9	105	7.1
Institutional setting	5	0.7	12	1.5	17	1.2
Total	686	100.0	789	100.0	1475	100.0

Unknown

4 1 5

TABLE 4.5

DISTRIBUTION BY SIZE OF HOUSEHOLD, DENIALS AND ALLOWANCES

Persons in	Den:	ials	Allow	rances	Com	bined
Household	No.	%	No.	%	No.	%
1	73	10.7	63	8.1	136	9.3
2	250	36.7	305	39.2	555	38.0
3-4	209	30.6	283	36.4	492	33.7
5-6	88	12.9	87	11.2	175	12.0
7+	62	9.1	40	5.1	102	7.0
Total	682	100.0	778	100.0	1460	100.0

Average 3.5 3.2

3.3

TABLE 4.6

DISTRIBUTION BY PRESENT MARITAL STATUS,
DENIALS AND ALLOWANCES

Present	De	nials	Allo	wances	Con	bined
Marital Status	No.	%	No.	%	No.	%
Single	71	10.3	72	9.1	143	9.7
Married	450	65.2	585	74.2	1035	69.9
Widowed	45	6.5	46	5.8	91	6.2
Divorced	65	9.4	56	7.1	121	8.2
Separated	59	8.6	30	3.8	89	6.0
Total	690	100.0	789	100.0	1479	100.0

Unknown

7

7

TABLE 4.7

DISTRIBUTION BY RELIGIOUS PREFERENCE, DENIALS AND ALLOWANCES

Religious	De	nials	Allo	wances	Cor	nbined
Preference	No.	%	No.	%	No.	%
Catholic	219	31.7	269	34.1	488	33.0
Protestant	384	55.6	426	54.0	810	54.8
Jewish	35	5.1	63	8.0	98	6.6
Other	8	1.2	3	0.4	11	0.7
None	1,1,	6.4	28	3.5	72	4.9
Total	690	100.0	789	100.0	1479	100.0

Unknown

7

1

TABLE 4.8

NATIVITY STATUS BY INTIIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES: PERCENTAGE DISTRIBUTION

Initial		Denials			Allowance	es	C	Combined	
Primary Diagnosis	Foreign Stock	Native Stock	(N)	Foreign Stock	Native Stock	(N)	Foreign Stock	Native Stock	(N)
CIRC	34.7	65.3	(259)	37.6	62.4	(356)	36.4	63.6	(615)
RESP	16.7	83.3	(66)	22.3	77.7	(112)	20.2	79.8	(178)
NERV	33.0	67.0	(112)	33.0	67.0	(197)	33.0	67.0	(309)
MUSC	24.7	75.3	(251)	37.1	62.9	(124)	28.8	71.2	(375)
Total	29.1	70.9	(688)	34.2	65.8	(789)	31.8	68.2	(1477)

TABLE 4.9

DISTRIBUTION BY NUMBER OF YEARS LIVED IN NEIGHBORHOOD AND AT PRESENT RESIDENCE, DENIALS AND ALLOWANCES

			In Nei	In Weighborhood	poo			At	Presen	At Present Residence	ence	
Number of Years	Der	Denials	Allo	Allowances	Com	Combined	Deı	Denials	Allo	Allowances	Com	Combined
	No.	PR	No.	Pol	No.	PS	No.	PS	No.	₽0	No.	89
< l year	27	3.9	22	2.8	64	3.4	8	13.1	19	8.5	157	10.6
1 < 5 years	124	18.1	102	13.1	226	15.5	21.1	30.7	187	23.7	398	27.0
5 < 10 years	107	15.6	125	16.1	232	15.9	130	18.9	150	19.0	280	18.9
10 < 20 years	182	9.92	200	25.7	382	26.1	136	19.7	206	26.0	342	23.1
> 20 years	442	35.8	329	42.3	573	39.1	121	17.6	180	22.8	301	20.4
Total	489	100.0	778	778 100.0	1462 100.0	100.0	688	688 100.0	790	790 100.0	1478	1478 100.0

10.8

TABLE 4.10

DISTRIBUTION BY ANNUAL INCOME LEVEL,
DENIALS AND ALLOWANCES

Annual	De	nials	Allo	wances	Con	bined
Income Level	No.	%	No.	%	No.	%
< 500	24	3.8	2	0.3	26	1.9
500 < 1,000	66	10.5	31	4.2	97	7.1
1,000 < 2,000	141	22.3	180	24.5	321	23.5
2,000 < 3,000	114	18.1	160	21.8	274	20.1
3,000 < 4,000	86	13.7	136	18.5	222	16.3
4,000 < 5,000	53	8.4	90	12.3	143	10.5
5,000 < 6,000	50	7.9	41	5.6	91	6.7
6,000 < 7,000	37	5.9	23	3.1	60	4.4
≥ 7,000	59	9.4	71	9.7	130	9.5
Total	630	100.0	73 ¹ 4	100.0	1364	100.0

Average: \$3,253 \$3,382 \$3,322 Unknown 60 56 116

TABLE 4.11

DISTRIBUTION BY MAIN SOURCE OF INCOME, DENIALS AND ALLOWANCES

V 1 G	De	nials	Allo	wances
Main Source of Income	No.	%	No.	%
Earnings - own income	184	27.6	25	3.2
Earnings - wife's income	95	14.3	120	15.6
Investment income	22	3.3	27	3.5
Disability benefits - OASDI	21	3.2	429	55.7
Disability benefits - other	25	3.8	15	1.9
Retirement benefits - OASDI	68	10.2	44	5.7
Retirement benefits - other	64	9.6	53	6.9
Veterans benefits	31	4.7	26	3.4
Public assistance	110	16.5	5	0.6
Other	45	6.8	27	3.5
Total	665	100.0	771	100.0

Unknown 25 19

TABLE 4.12

DISTRIBUTION BY NUMBER OF INCOME SOURCES,
DENIALS AND ALLOWANCES

Number of	De	nials	Allo	wances	Соп	bined
Income Sources	No.	%	No.	%	No.	%
1	229	34.0	113	14.5	342	23.5
2	276	41.0	349	44.7	625	43.1
3	113	16.8	227	29.1	340	23.4
4+	55	8.2	91	11.7	146	10.0
Total	673	100.0	780	100.0	1453	100.0
Average:	2.1		2.5		2.3	
Unknown	17		10		27	

TABLE 4.13

MAIN SOURCE OF INCOME BY ANNUAL INCOME LEVEL, DENIALS

				Ann	ual Inc	Annual Income Level	e]			
Main Source of Income	ν, ν	< 2,000	2,4	2,000	4 >	4,000 < 6,000	> 6,000	000	Total	al
	No.	PC.	No.	PC	No.	PS	No.	B	No.	BQ
Earnings - own income	23	9.6	77	22.0	50	48.4	52	55.2	167	27.1
Earnings - wife's income	10	9.4	38	19.0	22	21.4	16	17.0	%	14.0
Investment income	М	1.4	4	2.0	C)	1.9	6	9.6	18	2.9
Disability benefits - OASDI	91	7.3	4	2.0	Н	1.0	ı	ı	27	3.4
Disability benefits - other		3.2	15	7.5	٦	1.0	ı	1	23	3.7
Retirement benefits - OASDI	35	16.0	22	11.0	4	3.9	Н	1.1	62	10.1
Retirement benefits - other	13	5.9	53	14.5	12	11.7	6	9.6	63	10.2
Veterans benefits	17	7.8	6	4.5	σ	2.9	Ч	1.1	93	6.4
Public assistance	82	37.4	25	12.5	П	1.0	ι	,	108	17.5
Other	15	6.8	10	5.0	7	6.8	9	6.4	38	6.2
Total	219	100.0	200	200 100.0	103	103 100.0	46	94 100.0	*919	0.001 *919

*Excluding unknowns on either or both variables.

TABLE 4.13 (cont.)
MAIN SOURCE OF INCOME BY ANNUAL INCOME LEVEL, ALLOMANCES

				Annu	al Ince	Annual Income Level				
Main Source of Income	< 2,000	000	2,4 > 4,4	2,000 < 4,000	4,000 < 6,00	4,000 < 6,000	> 6,000	000	Tor	Total
	No.	Be	No.	BC	No.	BE	No.	Be	No.	82
Earnings - own income	3	1.4	5	1.7	7	5.4	6	9.8	ħZ	3.3
Earnings - wife's income	4	1.9	53	6.6	64	37.7	30	32.6	112	15.4
Investment income	1	ı	9	2.0	6	6.9	80	8.7	23	3.2
Disability benefits - OASDI	168	80.1	189	4.49	37	28.5	16	17.4	7,10	56.5
Disability benefits - other	2	2.4	9	2.0	Ø	1.5	Ø	2.2	15	2.1
Retirement benefits - OASDI	19	0.6	80	6.8	Н	φ.	1	ı	7,0	5.5
Retirement benefits - other	1	1	23	7.8	13	10.0	12	13.0	84	9.9
Veterans benefits	4	1.9	70	3.4	m	2.3	8	8.7	25	3.4
Public assistance	4	1.9	Н	ů.	1	. 1	1	ı	5	.7
Other	ю	1.4	5	1.7	6	6.9	7	9.7	5₹	3.3
Tota.1	210	210 100.0	±162	100.0	130	130 100.0	92	100.0	126*	726* 100.0

*Excluding unknowns on either or both variables.

TABLE 4.14 ANNUAL INCOME LEVEL BY NUMBER OF INCOME SOURCES, DENIALS AND ALLOWANCES

DENIALS

				Numbe	r of	Income S	ource	S		
Annual		1		2		3		4 +	To	ota1
Income Level	No.	%	No.	%	No.	%	No.	%	No.	%
< \$2,000	126	58.9	76	30.3	16	15.2	4	7.8	222	35.7
2,000 < 4,000	58	27.1	83	33.1	42	40.1	18	35.3	201	32.4
4,000 < 6,000	22	10.3	50	19.9	20	19.0	11	21.6	103	16.6
≥ 6,000	8	3.7	42	16.7	27	25.7	18	35.3	95	15.3
Total	214	100.0	251	100.0	105	100.0	51	100.0	621*	100.0
Average:	\$2,1	78	\$3,4	62	\$4,1	.05	\$4,6	86	\$3,22	29

ALLOWANCES

< \$2,000	93	83.0	93	29.0	23	10.7	4	4.9	213	29.2
2,000 < 4,000	14	12.5	162	50.4	96	44.6	22	26.8	294	40.3
4,000 < 6,000	3	2.7	49	15.3	55	25.6	23	28.0	130	17.8
≥ 6,000	2	1.8	17	5.3	41	19.1	33	40.3	93	12.7
Total	112	100.0	321	100.0	215	100.0	82	100.0	730*	100.0
Average:	\$1.4	6 1	\$2.0	38	\$li 0	160	\$5.0	73	\$3.28	32

COMBINED

< \$2,000	219	67.1	169	29.5	39	12.2	8	6.0	435	32.2
2,000 < 4,000	72	22.1	245	42.9	138	43.1	40	30.1	495	36.7
4,000 < 6,000	25	7.7	99	17.3	75	23.4	34	25.6	233	17.2
≥ 6,000	10	3.1	59	10.3	68	21.3	51	38.3	188	13.9
Total	326	100.0	572	100.0	320	100.0	133	100.0	1351*	100.0
Average:	\$1,9	33	\$3,1	51	\$4,0	75	\$4,9	25	\$3,2	58

^{*} Excluding unknowns on either or both variables.

TABLE 4.15

ANNUAL INCOME LEVEL BY TOTAL CASH ASSETS, DENIALS AND ALLOWANCES

DENIALS

				Anr	nual I	ncome Le	vel			
Total Cash Assets	< 2	,000		000 ,000		000 ,000	≥ 6	,000	To	otal
Odbir Mobe ub	No.	%	No.	%	No.	%	No.	%	No.	%
None	116	57.2	25	15.4	9	10.6	2	2.9	152	29.2
\$ 1 < 1,000	57	28.1	51	31.5	11	12.9	1	1.4	120	23.1
1,000 < 5,000	14	6.9	36	22.2	18	21.2	6	8.6	74	14.2
5,000 < 10,000	9	4.4	21	13.0	13	15.3	19	27.1	62	11.9
10,000 < 50,000	7	3.4	29	17.9	31	36.5	30	42.9	97	18.7
≥ 50,000	-	-	-	-	3	3.5	12	17.1	15	2.9
Total	203	100.0	162	100.0	85	100.0	70	100.0	520*	100.0

^{*}Excluding 170 cases - unknown on either one or both variables.

ALLOWANCES

None	63	38.1	24	10.3	2	2.1	3	4.5	92	16.4
\$ 1 < 1,000	50	30.1	51	22.0	10	10.3	2	3.0	113	20.1
1,000 < 5,000	15	9.0	53	22.8	14	14.4	8	12.1	90	16.0
5,000 < 10,000	17	10.2	44	19.0	25	25.8	6	9.1	92	16.4
10,000 < 50,000	20	12.0	57	24.6	44	45.3	32	48.6	153	27.4
≥ 50,000	1	0.6	3	1.3	2	2.1	15	22.7	21	3.7
Total	166	100.0	232	100.0	97	100.0	66	100.0	561*	100.0

^{*} Excluding 229 cases - unknown on either one or both variables.

COMBINED

None	179	48.5	49	12.4	11	6.0	5	3.7	244	22.6
\$ 1 < 1,000	107	29.0	102	25.9	21	11.5	3	2.2	233	21.6
1,000 < 5,000	29	7.9	89	22.6	32	17.6	14	10.3	164	15.2
5,000 < 10,000	26	7.0	65	16.5	38	20.9	25	18.4	154	14.2
10,000 < 50,000	27	7.3	86	21.8	75	41.3	62	45.5	250	23.1
≥ 50,000	1	0.3	3	0.8	5	2.7	27	19.9	36	3.3
Total	369	100.0	394	100.0	182	100.0	136	100.0	1081*	100.0

^{*} Excluding 399 cases - unknown on either one or both variables.

ANNUAL INCOME LEVEL BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

			ī	DENTALS								AL	ALLOWANCES				
-	Circ	Resp		Nerv	Musc	o.	Total	Li Li	Circ		Resp		Nerv	M	Musc	Total	al
	No. %	No. % No. % No. % No. % No. %	No	%	No.	Be	No.	PQ	No.	_	No. %		No. %		No. %	No.	₽0
	77 33.3	77 33.3 24 37.5 43 41.0 87 38.1 231 36.8 86 26.2	5 4	3 41.0	87	38.1	231	36.8	%	2.5	34 32.4	77.	56 30.3	37	37 31.9 213 29.0	213	29.0
	2,000 < 4,000 69 29.7 27 42.2	27 42.	S	27 25.7	77	33.6	200	31.7	135 47	2.	146 43	φ.	77 33.6 200 31.7 135 41.2 46 43.8 68 36.7	747	47 40.5 296 40.4	963	40.4
4,000 < 6,000	40 17.2		8 16	5 7.8 16 15.2 42 18.3 103 16.3 67 20.4	742	18.3	103	16.3	67 20	4.0	17 16.2	ď	25 13.5		22 19.0 131 17.8	131	17.8
	16 19.8	8 12.5	5 15	19 18.1		10.01	%	23 10.0 96 15.2	40 12.2		9.7 8	٠ <u>.</u>	36 19.5	10	10 8.6	46	94 12.8
	232 100.0 64 100.0 105 100.0 229 100.0 630 100.0 328 100.0 105 100.0 185 100.0 116 100.0 734 100.0	64 100.	0 10,	5 100.0	229 1	0.00	630 1	0.00	328 100	0.0	105 100	0.	85 100.0	116	100.0	734	100.0
			-											-			

				COMBINED	CD.					
Trace Terrel	Circ	57	Resp	0	Ner.v	5	Musc		Total	1
TOOMS TO AST	No.	Bo	No.	BE	No.	%	No.	of W	No.	PS
< 2,000	163	29.1	58	34.3	66		34.1 124	35.9	444	32.6
2,000 < 4,000	204	36.4	73	43.2	95	32.8	124	35.9	964	36.3
,000 < 6,000 107	107	19.1	22	13.0	47	14.1	49	18.6	234	17.2
> 6,000	%	15.4	91	9.5	55	19.0	33	9.6	190	13.9
Total	560	100.0	169	100.0	290	100.0	345	100.0 169 100.0 290 100.0 345 100.0 1364 100.0	1364	100.0

Unknown

TABLE 4.17

TOTAL CASH ASSETS AT PRESENT BY INITIAL PRIMARY DIAGNOSIS,
DENIALS AND ALLOWANCES

DENIALS

Total		CIRC		RESP		NERV		MUSC ·	Т	OTAL
Cash Assets	No.	%	No.	%	No.	%	No.	%	No.	%
None	41	22.2	17	29.3	30	33.8	73	35.7	161	30.0
\$ 1 < 1,000	29	15.7	17	29.3	23	25.8	54	26.5	123	22.9
1,000 < 5,000	27	14.6	11	19.0	10	11.2	28	13.7	76	14.2
5,000 < 10,000	24	13.0	7	12.1	10	11.2	22	10.8	63	11.8
10,000 < 50,000	56	30.2	5	8.6	13	14.6	23	11.3	97	18.1
≥ 50,000	8	4.3	1	1.7	3	3.4	4	2.0	16	3.0
Total	185	100.0	58	100.0	89	100.0	204	100.0	536	100.0

Average:	\$13,597	\$5,414	\$8,051	\$6,108	\$8,940
Unknown	74	8	25	47	154

ALLOWANCES

None	42	17.1	12	14.1	30	21.5	10	10.2	94	16.5
\$ 1 < 1,000	41	16.7	21	24.7	24	17.1	27	27.6	113	19.9
1,000 < 5,000	41	16.7	19	22.4	17	12.1	16	16.3	93	16.3
5,000 < 10,000	38	15.4	15	17.6	23	16.4	16	16.3	92	16.2
10,000 < 50,000	76	30.8	16	18.8	37	26.5	27	27.6	156	27.4
≥ 50,000	8	3.3	2	2.4	9	6.4	2	2.0	21	3.7
Total	246	100.0	85	100.0	140	100.0	98	100.0	569	100.0
Average:	\$13,	287	\$9,4	12	\$14,	111	\$11,	546	\$12,	611
Unknown	110		27		58		26		221	

TABLE 4.17 (cont.)

TOTAL CASH ASSETS AT PRESENT BY INITIAL PRIMARY DIAGNOSIS, COMBINED

COMBINED

	Total	C	IRC	R	ESP	N	ERV	М	USC	I	OTAL
	Cash Assets	No.	%	No.	%	No.	%	No.	%	No.	%
	None	83	19.3	29	20.3	60	26.3	83	27.4	255	23.1
	\$ 1 < 1,000	70	16.2	38	26.5	47	20.5	81	26.8	236	21.4
	1,000 < 5,000	68	15.8	30	21.0	27	11.8	44	14.6	169	15.3
	5,000 < 10,000	62	14.4	22	15.4	33	14.4	38	12.6	155	14.0
	10,000 < 50,000	132	30.6	21	14.7	50	21.8	50	16.6	253	22.9
	≥ 50,000	16	3.7	3	2.1	12	5.2	6	2.0	37	3.3
	Total	431	100.0	143	100.0	229	100.0	302	100.0	1105	100.0
ľ		4	1			4		4- 0		4	000

 Average:
 \$13,420
 \$7,790
 \$11,755
 \$7,873
 \$10,830

 Unknown
 184
 35
 83
 73
 375

TABLE 4.18

SOCIOECONOMIC STATUS FOR PRE- AND POST-ONSET PHASES, DENIALS AND ALEGMANCES

	Combined	P.Q.	0 35.9	5 21.4	0 17.3	6 13.8	11.6	1562 100.0
	-	No.	260	335	270	216	181	
Post-Onset	Allowances	PS	32.7	20.0	19.3	15.0	13.0	100.0
Post	Allo	No.	270	991	160	124	108	828
	Denials	%	39.6	23.0	15.0	12.5	6.6	734 100.0
	Der	No.	290	169	110	92	73	734
	Combined	%	35.6	22.5	17.6	13.0	11.3	100.0
	Con	No.	554	350	273	202	176	1555
Pre-Onset	Allowances	PQ	32.1	20.8	20.2	14.5	12.4	822 100.0 1555 100.0
Pre-	Allo	No.	792	171	166	119	102	822
	Denials	₽€	39.6	4.48	14.6	11.3	10.1	733 100.0
	Der	No.	290	179	107	83	74	733
	Socioeconomic	200000	Lowest quintile	Second quintile	Third quintile	Fourth quintile	Highest quintile	Total

2.4

5.6

8.3

4.9

2.5

e 0

Average SES: Unknown

TABLE 4.19

SOCIOECONOMIC STATUS* COMPARISONS BETWEEN DENIALS AND ALLOWANCES:
TESTS OF DIFFERENCE IN MEANS AND MEAN DIFFERENCE TEST
FOR PRE- AND POST-ONSET PHASES, AND BETWEEN PRE- AND POST-ONSET PHASES

		N	\overline{X}	2 s		S.E. _p	t	P <
Pre-	-Onset Phase							
	Denials	733	2.96	7.66		- 1	1 00	
	Allowances	822	3.57	8.06		.14	-4.36	.001
Post	t-Onset Phase							
	Denials	734	3.03	7.76		7.1.	1. 07	007
	Allowances	828	3.60	8.21		.14	-4.07	.001
		N	d	2 s _d	Var.	S.E.	t	P <
	- and Post- set Phases							
	Denials	732	08	1.84	1.66	07	0.76	.50 (n.s.
	Allowances	820	03	1.49	T *00	.07	-0.10	.)U (n.s.

^{*}Socioeconomic status based on the division of census tracts into tenths, white population only, using the median monthly rental value in each census tract. Socioeconomic tenth of study member determined by census tract residence at both pre- and post-onset periods.

TABLE 4.20

COMPARISONS OF MEANS BETWEEN DENIALS AND ALLOWANCES ON SOCIOECONOMIC VARIABLES FOR PRE- AND POST-ONSET PHASES

	N	X	s ²	S.E.	t	P <
Pre-Onset Phase						
A. Occupation						
Denials	690	48.59	777.70	a he	-1.81	
Allowances	787	51.21	766.31	1.45	-1.01	n.s.
B. Education						
Denials	688	50.26	806.42	- 1-	- 10	
Allowances	788	49.55	782.97	1.47	0.48	n.s.
Post-Onset Phase						
C. Socioeconomic ten	<u>th</u>					
Denials	689	46.61	822.59	7 10	-4.01	.001
Allowances	789	52.59	799 • 79	1.49	-4.OI	.001
D. <u>Income</u>						
Denials	631	48.34	927.43	7.56	0.70	0.5
Allowances	734	51.74	697.04	1.56	-2.18	.05

TABLE 5.1

TOTAL NUMBER OF JORS AND DIFFERENT OCCUPATIONS OVER PAST 10 YEARS, SELECTED SPUDY CASES, DENTALS AND ALLOMANCES

	ned	30	1.1	61.5	23.7	9.5	2.6	1.6	100.0
	Combined	No.	16	606	350	140	39	23	1477
	Allowances	82	1.0	71.0	20.3	5.2	1.4	1.1	100.0
tions	Allo	No.	8	559	160	41	77	6	788
Occupations	als	82	1.2	50.7	27.6	14.4	4.1	2.0	100.0 1474 100.0 689 100.0 788 100.0 1477
	Denials	No.	8	350	190	66	28	14	689
	Combined	32	1.1	53.2	22.3	11.5	5.0	6.9	100.0
	Com	No.	16	783	329	170	74	102	1424
Ω.	Allowances	BR	1.0	62.8	21.5	7.5	2.8	4.4	100.0
Jobs	Allo	No.	80	464	169	65	22	35	787
	als	PQ.	1.2	41.9	23.3	16.2	7.6	9.8	687 100.0
	Denials	No.	80	589	160	111	52	29	289
Total	Wimbon	Todinor	Not worked	г	۲۵	e	4	5+	Total

2.0

Average Unknown

TABLE 5.2

OCCUPATIONAL STATUS PRIOR TO ONSET OF DISEASE*, DENIALS AND ALLOWANCES

Occupational	De	nials	Allo	wances	Combi	ned
Status	No.	%	No.	%	No.	%
Prof., Mgr., & Kind. Wkrs.	88	12.7	112	14.3	200	13.5
Clerical & Sales Wkrs.	76	11.0	99	12.6	175	11.9
Crafts., Fore., & Kind. Wkrs.	222	32.3	264	33.6	486	33.0
Operatives & Kind. Wkrs.	178	25.8	181	23.0	359	24.4
Service Workers	67	9.7	85	10.8	152	10.3
Laborers	59	8.5	45	5.7	104	6.9
Total	690	100.0	786	100.0	1476	100.0

Unknown 45 43 88

^{*}Interview schedule source.

TABLE 5.3

OCCUPATIONAL STATUS PRIOR TO ONSET OF DISEASE BY NUMBER OF YEARS JOB HELD, DENIALS AND ALLOWANCES

			_							
	V	No.	Yrs.	5.9	5.2	5.7	5.8	3.9	5.9	5.5
		Total	BE	100.0	100.0	100.0	100.0	100.0	100.0	93 12.0 147 18.9 536 69.1 776 100.0
		To.	No.	11	%	261	179	87	45	7.176
	He 1d	9 < 1	PS.	75.7	4.65	73.9	75.5	38.1	77.8	1.69
ALLOWANCES	Job 1	\ \ \	No.	48	57	193	135	32	35	536
ALLOW	No. Years Job Held	2-5	BQ	16.2	30.2	14.2	15.6	34.5	13.3	18.9
	No.	Ċ	No.	18 1	8)	37	28	29	9	147
		П	Po	8.1	10.4	11.9	6.8	27.4	8.9	12.0
		۷ı	No.	6	10	31	16	23	4	
	AVP.	No	Yrs.	5.4	5.2	5.3	5.4	3.5	9.4	5.1
		Total	₽€.	100.0	100.0	100.0	100.0	100.0	100.0	15.3 165 24.3 411 60.4 680 100.0 5.1
		.Lo.	No.	88	92	219	176	65	29	680
	He1d	9 -	BQ	59 67.1	64.5	22.8 139 63.5	21.6 116 65.9	29.5	29 51.8	4.09
DENIALS	qof :	ΛI	No.		49	139	116	19		411
E	No. Years Job Held	2-5	Po	22.7	17.1	22.8	21.6	43.1	16 28.6	24.3
	No.	5	No.	8	13	50	38	28		165
		7	BR	10.2	18.4	13.7	12.5	27.7	19.6	15.3
		۷I	No.	6	14	39	22	18	Ħ	104
	Occurset-fonal	Status Prior To	Onset of Disease	Prof., Mgr., & Kind. Wkrs.	Clerical & Sales Wkrs.	Crafts., Fore., & Kind. Wkrs.	Operatives & Kind. Wkrs.	Service Workers	Laborers	Total

TABLE 5.3 (Cont'd)

OCCUPATIONAL STATUS PRIOR TO ONSET OF DISEASE BY NUMBER OF YEARS JOB HELD, COMBINED

Ave. No. Yrs. 5.3 5.2 5.5 5.7 9.6 100.0 100.0 100.0 100.0 100.0 100.0 100.0 Total 1456 199 172 149 480 101 No. 355 71.9 9.19 69.2 70.7 34.2 65.1 63.3 No. Years Job Held 9 ^I 143 No. 106 332 49 746 251 51 COMBINED 19.1 4.42 38.3 18.6 21.8 77.7 18.1 2-5 38 42 87 312 99 57 SS No. 14.0 12.7 TO.7 27.5 14.9 13.5 0.6 П V I 15 18 54 41 No. 197 61 38 Crafts., Fore., & Kind. Wkrs. Status Prior To Onset of Disease Prof., Mgr., & Kind. Wkrs. Sales Wkrs. Operatives & Kind. Wkrs. Occupational Service Workers Clerical & Total Laborers

TABLE 5.4

POST ONSET WORK STATUS BY OCCUPATIONAL STATUS FRIOR TO ONSET OF DISEASE, SELECTED STUDY SAMPLE, DENTALS AND ALLOWANCES

DENTAT.S

AT.I.OWANCES

	_									
		Total	. of	100.0	100.0	100.0	100.0	100.0	100.0	783 100.0
		Ĭ	No.	111	66	263	180	85	45	783
		muous rk	%	7.2	7.1	3.0	2.2	3.5	1	3.8
ALLIOW ALIVED		Continuous Work	No.	80	7	Φ	4	m	1	30
FLLLOW		led b.	%	10.8	11.11	4.8	7.2	7.4	6.7	8.3
		Resumed Work	No.	12	11	22	13	77	m	65
	status	, k a.	%	82.0	81.8	9.88	9.06	91.8	93.3	6.78
	Work S	Wot Work	No.	16	81	233	163	78	742	688
	Post Onset Work Status	Total	pg pd	100.0	100.0	100.0	100.0	100.0	100.0	689 100.0
	Post	T(No.	18	92	222	178	19	59	
		Continuous Work	g g	18.4	7.9	3.6	3.9	7.5	5.1	6.5
DENTATIO		Conti	No.	16	9	ω	7	10	т	45
J.E.		Resumed b. Work	Sel Sel	42.5	7.44	47.4	39.9	28.4	33.9	39.6
		Resume Work	No.	37	34	92	17	19	20	273
		• ф	pg.	39.1	4.74	55.0	56.2	1.49	0.19	53.9
		Not Work	No.	34	36	122	100	43	36	37.1
	Ocempations1	Status Prior To Onset of Disease		Prof., Mgr., & Kind. Wkrs.	Clerical & Sales Wkrs.	Crafts., Fore., & Kind. Wkrs.	Operatives & Kind. Wkrs.	Service Workers	Laborers	Tota1

a. Stopped work on or before onset date and not worked since onset date.

b. Stopped work on or before onset date and resumed work after onset date. ${\tt c}$. Worked up to onset date and continued working beyond onset date.

TABLE 5.4 (Cont'd)

POST ONSET WORK STATUS BY OCCUPATIONAL STATUS PRIOR TO ONSET OF DISEASE, SELECTED STUDY SAMPLE, COMBINED

COMBINED

			Post	Post Onset Work Status	Work St	atus		
Status Prior to	Not Work	k a.	Resumed Work	led b.	Conti	Continuous _c .		Total
Unset of Disease	No.	%	No.	200	No.	B	No.	of S
Prof., Mgr., & Kind. Wkrs.	125	63.2	64	7.4S	54	12.1	198	100.0
Clerical & Sales Wkrs.	117	6.99	45	25.7	13	4.7	175	100.0
Crafts., Fore., & Kind. Wkrs.	355	73.2	114	23.5	91		485	100.00
Operatives & Kind. Wkrs.	883	73.4	48	23.5	7	3.1	358	100.0
Service Workers	121	9.62	23	15.1	ω	5.3	152	100.0
Laborers	78	75.0	23	22.1	3	2.9	104	100.0
Total	1059	71.9	338	23.0	75	5.1	1472	100.0

a. Stopped work on or before onset date and not worked since onset date.

b. Stopped work on or before onset date and resumed work after onset date. ε . Worked up to onset date and continued working beyond onset date.

TABLE 5.5

CONTINUITY IN LINE OF WORK AFTER ONSET
OF DISEASE ACCORDING TO OCCUPATIONAL STATUS
PRIOR TO ONSET OF DISEASE AMONG THOSE WITH
POST ONSET WORK EXPERIENCE*, DENIALS AND ALLOWANCES

	Occupational				Post 0	nset Lir	ne of Work			
	Status Prior		Denial	.s	LA	lowances			Combine	d
	to Onset		Per	cent		Per	cent		Per	cent
	to onset	No.	Same	Different	No.	Same	Different	No.	Same	Different
P	rof., Mgr., & Kind. Wkrs.	54	66.7	33.3	21	71.4	28.6	75	68.0	32.0
C.	lerical & Sales Wkrs.	40	67.5	32.5	18	88.9	11.1	58	74.1	25.9
Ca	rafts., Fore., & Kind. Wkrs.	100	63.0	37.0	31	71.0	29.0	131	64.9	35.1
0]	peratives & Kind. Wkrs.	78	52.6	47.4	18	66.7	33+3	96	55.2	44.8
Se	ervice Workers	24	75.0	25.0	7	71.4	28.6	31	74.2	25.8
La	aborers	23	34.8	65.2	3	100.0	-	26	42.3	57.7
	Total	319	60.5	39.5	98	74.5	25.5	417	63.8	36.2

^{*} Based on the first job held after the date of onset of disease.

TABLE 5.6

CHANGE IN OCCUPATIONAL STATUS BASED ON PRE-AND POST-ONSET WORK STATUS AMONG THOSE WITH POST ONSET WORK EXPERIENCE*, DENIALS AND ALLOWANCES

Change in Occupational	Deni	ials	Allow	ances	Com	bi ned
Status	No.	%	No.	%	No.	%
Downward	79	24.8	16	16.3	95	22.8
No Change	193	60.5	73	74.5	266	63.8
Upward	47	14.7	9	9.2	56	13.4
Total	319	100.0	98	100.0	417	100.0

^{*} Based on the first job held after the date of onset of disease.

TABLE 5.7

DISTRIBUTION OF POST-ONSET OCCUPATIONAL STATUS OF WORKERS AMONG THOSE WITH WORK EXPERIENCE, a · BY OBSERVED AND EXPECTED b · NUMBERS AND OBSERVED TO EXPECTED RATIOS, DENIALS AND ALLOWANCES

7.	Ratio 0/E	1.33	1.17	-95	-95	.72	88.	
Combined	No. Exp'd.	56.3	9.64	137.2	101.3	43.0	59.6	
	No. Obs.	75	58	131	%	31	8	417
w	Ratio 0/E	1.59	1.54	%	92.	69:	.43	
Allowances	No. Exp'd.	13.2	11.7	32.2	23.8	10.1	7.0	
	No. Obs.	. 21	18	31	18	7	m	96
	Ratio O/E	1.25	1.05	56.	1.01	.73	1.02	
Denials	No. Exp'd.	1.54	38.0	104.9	77.5	32.9	22.6	
	No. Obs.	54	0†	100	78	42	23	319
Post-Onset	Occupational Status	Prof., Mgr. & Kind. Wkrs.	Clerical & Sales Wkrs.	Crafts., Fore., & Kind. Wkrs.	Operatives & Kind. Wkrs.	Service Workers	Laborers	Total

a. Based on the first job held after the date of onset of disease.

b. Expected numbers computed by using the pre-onset occupational status percentage distribution of the total sample.

TABLE 5.8

POST-ONSET WORK STATUS BY AGE AT ONSET OF DISEASE, DENIALS AND ALLOWANCES

	_	-									
		Total	82	9.4	3.6	4.5	8.9	18.9	32.7	86.8	100.0
		Tol	No.	38	88	35	2	148	257	210	784
		Continuous Work	R	10.0	3.3	s	3.3	26.7	33.4	23.3	100.0
NCES		Cont	No.	ω	Н	1	Н	80	10	_	30
ALLOWANCES		Resumed Work	%	13.6	3.0	9.1	18.2	18.2	31.8	6.1	100.0
		Res	No.	6	N	9	12	12	21	4	99
	Status	Not Work	BQ	3.5	3.6	4.2	8.3	18.6	32.9	28.9	100.0
	Work a)M	No.	24	25	59	57	128	226	199	889
	Post-Onset Work Status	Total	26	5.2	5.2	12.0	13.8	9.61	27.5	16.7	0.001 689
	Pos	οL	No.	36	36	83	95	135	189	115	689
		Continuous Work	%	6.7	2.2	2.2	4.42	13.3	31.2	20.0	100.0
DENIALS		Cont:	No.	m	Н	Н	11	9	17	6	54
DEN		Resumed Work	%	7.7	8.4	13.6	16.5	22.0	23.0	8.8	100.0
		Res	No.	21	23	37	45	9	63	24	273
		Not Work	BQ	3.2	3.2	12.1	10.5	18.6	30.3	22.1	100.0
		N	No.	12	12	45	39	69	112	82	371
		Age at Onset of	Ulsease	< 35	35-39	ተተ-0ተ	64-54	50-54	55-59	60-64	Total

54.0

53.3

49.2

54.5

51.3

52.4

1.64

Average: 52.8

TABLE 5.8 (Cont'd)

POST-ONSET WORK STATUS BY AGE AT ONSET OF DISEASE, COMBINED

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\Box
CNE
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			Po	Post-Onset Work Status	t Work	Status		
Age at Onset of	Not Work		Resumed Work	ned rk	Cont	Continuous Work	Ě	Total
Disease	No. %		. on	84	No.	B	No.	Bo
< 35	36 3.4		30	8.8	9	8.0	72	4.9
35-39	37 3.5		25	4.7	Ø	2.7	49	4.3
44-04	74 7.0	0	43	12.7	Н	1.3	118	8.0
45-49	96 9.1		57	16.8	12	0.91	165	11.2
50-54	197 18.6	٧٥	72	21.2	17	18.7	283	19.2
55-59	338 31.9		48	24.8	57	32.0	9474	30.3
60-64	281 26.5	- 2	28	8.3	91	21.3	325	22.1
Total 10	1059 100.0	0	339	100.0	75	75 100.0	1473	100.0

52.7

52.8

49.1

53.9

Average:

TABLE 5.9

POST-ONSET WORK STATUS BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

CIRC				Denials	1s								Α.	Allowances	ces				
WORK Status	2	RESP		NERV		MUSC		TOTAL	Ę	CIRC		RESP		NERV		MUSC		TOTAL	ı-j
TAG :	80	No. %	_	No.	No. % No. %	No.	BQ	No. %	8	No.	No. % No. %	No.		No. %		No.	%	No.	BQ
Not Work 134	134 51.9 35 53.0 67 58.8 135 53.8 371 53.9 310 87.0 101 91.0 173 89.7 104 83.9 688	35	53.0	29	58.8	135	53.8	371	53.9	310	0.78	101	0.16	173	7.68	104	83.9	688	87.8
Resumed Work 107 41.5 24 36.4	41.5	54	36.4	40 35.1 102 40.6 273 39.6	35.1	102	9.04	273	39.6	33	33 9.3	4	3.6	3.6 13 6.7 16 12.9 66	6.7	16	12.9	99	4.8
Continuous 17 Work	17 6.6 7 10.6 7 6.1 14 5.6 45 6.5 13 3.7 6 5.4 7 3.6 4	-	9.01	7	6.1	17	5.6	45	6.5	13	3.7	9	5.4	7	3.6	4	3.2 30	9	3.8
Total 258	258 100.0 66 100.0 114 100.0 251 100.0 689 100.0 356 100.0 111 100.0 193 100.0 124 100.0 734 100.0	99	0.00	114 1	0.00	251 1	0.00	689 1	0.001	356 1	0.00	111	0.00	193 1	0.00	124 1	0.00	784 1	0.00

4					Com	Combined				
Fost-Unset	D	CIRC	RESP	3P	NERV	RV	MUSC	SC	0I	TOTAL
work status	No.	2	No.	BE	No.	80	No.	BQ	No.	BQ
Not Work	4714	72.3 136	136	76.9 240	240	78.1 239	239	2.69.	63.7 1059	71.9
Resumed Work	140	22.8	82	15.8	53	17.3 118	118	31.5	31.5 339	23.0
Continuous Work	93	4.9 13	13	7.3	7.3 14	7.6	18	4.6 18 4.8 75	75	5.1
Total	1 19	614 100.0 177 100.0 307 100.0 375 100.0 1473 100.0	177	100.0	307	100.0	375	100.0	1473	100.0

TABLE 5.10

POST-ONSET WORK STATUS BY TIME PERIOD, DENIALS & ALLOWANCES

DENIALS

			Time	Period				
Post-Onset		1		2		4	To	tal
Work Status	No.	%	No. %		No.	%	No.	%
Not Work	185	60.5	76	42.7	110	53.7	371	53.9
Resumed Work	100	32.6	93	52.2	80	39.0	273	39.6
Continuous Work	21	6.9	9	5.1	15	7.3	45	6.5
Total	306	100.0	178	100.0	205	100.0	689	100.0

ALLOWANCES

Not Work	275	89.6	210	86.4	203	86.8	688	87.8
Resumed Work	25	8.1	21	8.7	20	8.5	66	8.4
Continuous Work	7	2.3	12	4.9	11	4.7	30	3.8
Total	307	100.0	243	100.0	234	100.0	784	100.0

COMBINED

Not Work	460	75.0	286	67.9	313	71.3	1059	71.9
Resumed Work	125	20.4	114	27.1	100	22.8	339	23.0
Continuous Work	28	4.6	21	5.0	26	5.9	75	5.1
Total	613	100.0	421	100.0	439	100.0	1473	100.0

TABLE 5.11

POST-ONSET WORK STATUS BY NUMBER OF CURRENT HEALTH CONDITIONS, DENIALS AND ALLOWANCES

		Total	Be	1.4	37.5	30.2	18.9	12.0	100.0
		Ĭ	No.	11	294	237	148	46	784
		Continuous Work	PS	3.3	0.04	0.04	16.7	-	30 100.0
S		Cont:	No.	Н	12	12	5	ı	30
ALLOWANCES		Resumed Work	B	3.0	39.3	27.3	15.2	15.2	0.001 99
A		Re	No.	N	%	18	10	10	99
	tatus	Not Work	PQ	1.2	37.2	30.1	19.3	12.2	688 100.0
	ork S	Not	No.	8	256	207	133	84	688
	Post-Onset Work Status	Total	PS.	7.3	38.6	30.0	14.2	6.6	0.001 689
	Post	Ē	No.	50	366	207	98	68	689
		Continuous Work	2 Pol	8.9	51.1	15.6	22.2	9.	0.001 54
LS		Cont	No.	†	23	7	10	Н	45
DENIALS		Resumed Work	PQ	0.11	35.8	32.6	4.11	9.5	273 100.0
		Pe .	No.	30	96	89	31	25	273
		Not Work	%	4.3	39.1	29.9	15.4	11.3	371 100.0
		Not	No.	16	145	111	57	742	371
	Number of	Current Health	Conditions	None	н	Ø	m	9-4	Total

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				Š	OTT TITLE				
Number of	of			Pos	Post-Onset Work Status	Work ;	Status		
Current	tr	Not	Not Work	Rei	Resumed Work	Cont	Continuous Work	Ð	Total
Conditions	lons	No.	<i>b</i> 0	No.	₽€	No.	60/	No.	₽€
None		42	.2.3	32	4.6	2	6.7	61	4.1
Н		10 [†]	37.9	124	36.6	35	7.94	260	38.1
Q		318	30.0	107	31.6	19	25.3	444	30.1
m		190	17.9	147	12.1	15	20.0	54g	16.7
9-4		126	11.9	35	10.3	1	1.3	162	11.0
Total		1059	1059 100.0	339	339 100.0	75	75 100.0 11473 100.0	1473	100.0

5.0

1.6

2.0

5.0

Average:

TABLE 5.12

POST-ONSET WORK STATUS BY NUMBER OF CONDITIONS INTERFERING WITH WORK, DENIALS AND ALLOWANCES

DENIALS

ALLOWANCES

54.7 28.5 4.2 9.3 100.0 Potal 1.6 9 778 222 No. 8 425 72 33 10.01 0.09 23.3 6.7 100.0 Continuous Work 1.3 20 18 No. 8.5 1,6.1 15.4 9.4 100.0 Resumed Work 1.4 65 2 ın \sim No. 8 17 55.2 29.0 1.9 9.5 100.0 Post-Onset Work Status Not Work 1.6 683 . No 198 65 8 47.9 9.2 11.3 4.2 100.0 27.4 Total 1.5 20 72 639 306 175 29 . No 27 12.2 26.0 22.0 Continuous 9.8 100.0 ı Work 1.3 23 47 5 No. 9 4 20.9 41.0 25.4 8.2 4.5 100.0 Work 1.4 6 442 No. 100 62 7 8 17 51.7 29.4 6.6 4.5 100.0 Work 1.6 (# N.A. cases) 17 Not 354 No. 183 104 16 35 16 Average: Interfere With Work Conditions Number of Total None 9-4 N

	Total	%	6.9	51.7	28.0	9.5	4.2	100.0
	To	No.	98	731	397	131	09	7417
Status	Continuous Work	BO	11.3	57.8	22.5	4.8	ı	0.001 7141 0.001 17
Work	Cont	No.	8	41	16	9	1	17
Post-Onset Work Status	Resumed Work	₽º	19.7	42.1	25.6	8.1	4.5	309 100.0
Pos.	Re	No.	61	130	79	25	14	309
	Not Work	94	2.8	54.1	29.1	9.6	4.4	1037 100.0
	Not	No.	29	260	302	100	94	1037
Number of	Conditions Interfere	With Work	None	Н	Q	8	9-4	. Total

COMBINED

1.5

1.4 9

1.6

Average:

(# N.A.cases)

TABLE 5.13

POST-ONSET WORK STATUS BY NUMBER OF CURRENT CHRONIC CONDITIONS, DENIFLES AND ALLOMANCES.

		Total	g.	7.7	36.7	32.9	15.3	7.4	782 100.0	01
		ĭ	No.	09	287	257	120	58	782	3.2
		nuous rk	%	16.7	0.04	23.3	20.0	ı	30 100.0	
NCES		Continuous Work	No.	2	12	7	9	ı	99	2.5
ALLOWANCES		Resumed Work	PÓ	15.4	32.2	29	18.5	7.7	65 100.0	
		Res	No.	10	21	17	12	2	65	3.0
	Status	Not Work	BQ	9.9	37.0	33.9	14.8	7.7	100.0	01
	Work 8	Not	No.	7+5	254	233	102	53	289	3.2
	Post-Onset Work Status	Total	PQ	14.3	39.7	25.9	13.0	7.1	0.001 789	
	Post-	Ĭ	No.	98	273	178	89	64	289	2.7
		Continuous Work	B	13.3	44.5	22.2	11.1	8.9	0,001 54	
TS		Cont	No.	9	80	97	5	4	45	2.7
DENIALS		Resumed Work	PC	17.6	8.04	23.9	11.8	6.5	100.0	2
		Re	No.	748	111	65	32	97	272	2.5
		Not Work	₽€	11.9	38.4	27.8	14.1	7.8	100.0	6
		Not	No.	44	142	103	52	8)	370	2.9
	Number of	Chronic	Conditions	None	L 2	3-4	2-6	4 _	Total	Average:

-									
		Tota1	₽Q	10.8	38.1	29.6	14.2	7.3	1469 100.0
		.o.I.	No.	158	260	435	509	107	1469
	Status	Continuous Work	60	7.41	45.6	22.7	14.7	5.3	75 100.0
	Work	Cont	No.	77	33	17	디	4	75
COMB INED	Post-Onset Work Status	Resumed Work	80	17.2	39.1	24.3	13.1	6.3	337 100.0
0	Pos	Res	No.	58	132	82	‡	21	337
		Not Work	82	4.8	37.4	31.8	14.6	7.8	1057 100.0
		Not	No.	86	336	336	154	82	1057
	Number of	Chronic	Conditions	None	1-2	3-4	2-6	7 +	Total

3.1

TABLE 5.14

MOBILITY-ACTIVITY INDEX (LEVEL OF INDEPENDENCE) BY POST-ONSET WORK STATUS, DENIALS AND ALLOWANCES

DENIALS

ALLOWANCES

5.6 8.0 14.3 41.9 24.7 100.0 Total 112 8 8 37 328 194 784 No. 10.0 10.0 30.0 36.7 6.7 100.0 Continuous Work 6 No. 30 H 4.5 12.2 36.4 36.4 100.0 Resumed Work ω 99 No. 7 77 42.8 3.8 14.7 23.1 100.0 Work Status Not Work 18 159 688 32 57 295 No. 8 101 Post-Onset 55.8 100.0 1.2 32.1 Total 688 No. 9 ∞ 51 16 221 384 35.6 2.5 53.4 100.0 Continuous Work 45 . 0 16 54 28.7 64.2 4.8 1.1 100.0 Resumed Work 272 No. 2 175 1.3 3.0 7.6 34.2 50 .0 ď 1.6 100.0 Not Work No. 9 æ 127 185 371 (MOT) 60-20 25 (high) Mobility-Activity Index 10-12 16-18 13-15 22-24 19-51 Total

COMB INED

21.3

21.3

21.9

21.3

23.5

23.5

23.9

23.2

Average:

Mobal attr			Pos:	Post-Onset Work Status	Work S	tatus		
 Activity	Not	Not Work	Resum	Resumed Work	Cont	Continuous Work	H	Tota1
Tudex	No.	9/	No.	Po	No.	Bo	No.	₽º.
07-09(low)	19	1.8	Ŋ	9.	Н	1.3	22	1.5
10-12	31	2.9	4	1.2	Н	1.3	38	2.4
13-15	38	3.6	77	1.2	\sim	7,00	145	3.1
 16-18	89	6.4	9	1.8	5	2.9	79	5.4
19-51	137	12.9	21	6.2	72	6.7	163	11.11
22-24	422	39.9	102	30.2	25	33.3	645	37.3
25 (high)	344	32.5	199	58.8	35	7.94	578	39.5
 Total	1059	1059 100.0	338	100.0	75	75 100.0	1472	100.0
	1				-	•		-

22.3

22.6

23.5

9. IS

Average:

TABLE 6.1

PERCENTAGE DISTRIBUTION OF NUMBER OF CONDITIONS THAT INTERPERE WITH WORK BY NUMBER OF CURRENT HEALTH CONDITIONS*, DENIALS AND ALLOWANCES

_	_	-					
	Total	%Dist.	38.2	30.4	19.1	96 12.3	100.0
	To	No.	297	237	149	96	779
SS		++7				34.5	9.2 4.2 779 100.0
ALLOWANCES	ions h Work	3			28.9	30.2 34.5	9.2
AI	No. of Conditions Interfere with Work	2		55.7	45.6	26.0	28.9
	No. of Interf	1	93.9	0.8 43.5 55.7	0.7 24.8 45.6	8.3	2.8 54.9 28.9
		0	6.1 93.9	0.8	0.7	1.0	2.8
	Total	No. %Dist.	266 41.7	32.4	15.3	68 10.6	11.3 47.9 27.4 9.2 4.2 639 100.0
	To	No.	266	207	86	89	639
		++7				39.7	4.2
DENIALS	ions h Work	3			36.7	33.8	9.2
DE	No. of Conditions Interfere with Work	2		58.0	3.1 19.4 40.8 36.7	22.1 33.8 39.7	27.4
	No. of Interf	1	80.5	33.8 58.0	19.4	4.4	47.9
		0	19.5	8.2	3.1	!	11.3
	NO. OF CURRENT	CONDITION INTERNAL	1	2	т	++	Tota1

			00	COMBINED			
HEALTH CONDITIONS	No. of Conditions Interfere with Work	ditions	Interf	ere wi	h Work	Total	al
	0	1	2	3	4+	No.	%Dist.
1	12.4	12.4 87.6				563	563 39.7
2	4.3	4.3 39.0 56.7	26.7			444	31.3
8	1.6	1.6 22.7	43.7	32.0		247	17.4
+7	9.0	6.7	6.7 24.4	31.7 36.6	36.6	164	11.6
Total	9.9	6.6 51.8 28.2 9.2 4.2	28.2	9.2	4.2	1418	1418 100.0

 \ast Excluding subjects with no stated health condition at the present time.

TABLE 6.2

DISTRIBUTION BY MOBILITY STATUS,
DENIALS AND ALLOWANCES

Mobility	Den	ials	Allo	vances	Combi	ned
Status	No.	%	No.	%	No.	%
Confined to chair or in bed	11	1.6	70	8.8	81	5.5
Confined indoors - able to move about	4	.6	17	2.2	21	1.4
Outdoors - need help of person &/or device	64	9.3	160	20.3	224	15.2
No restriction	609	88.5	542	68.7	1151	77•9
Total	688	100.0	789	100.0	1477	100.0

Unknown 2 1 3

TABLE 6.3

PERCENT DISTRIBUTION OF MOBILITY STATUS (AT INTERVIEW) BY INITIAL MOBILITY STATUS (AT APPLICATION), DENIALS AND ALLOWANCES

			DENIALS	ST					ALLOWANCES	ANCES		
MORTI.TTY STATIIS	Mob	Mobility Status (At Interview)	tatus ((At Int	ervie	w)	Mot	ility 9	Status	Mobility Status (At Interview)	erviev	W)
(AT APPLICATION)		(0)	(5)		Total	al	(;	(5)		(3)	Total	11
	(T)	(2)	(3)	(4)	No.	%Dist.	(1)	(7)	(3)	(4)	No.	%Dist
(1) - No Restriction	92.1	6.2	0.5	1.2	564	564 82.5	9.48	10.2	1.9	3.3	520	66.1
(2) - Outdoors - Need Help of Person $\&/$ or Device	73.2	22.8	1.0	3.0	101	14.8	41.5	41.5 48.2 1.8	1.8	8.5	164	20.8
(3) - Confined Indoors - Able to Move About	1	100.0	:	ŀ	2	0.3	47.3	47.3 19.4 8.3 25.0	8.3	25.0	36	9.4
(4) - Confined to Chair or Bed	50.0	50.0	1	!	4	9.0	9.6	9.4 31.2	1	59.4	32	4.1
(5) - Confined in Medical Institution	91.7	1	!	8.3	12	1.8	37.1	31.4 2.9 28.6	2.9	28.6	35	4.4
Total %	88.7	9.1	9.0	0.6 1.6	683	683 100.0	68.7	20.3 2.2	2.2	8.8	787	787 100.0

MOBILITY STATUS			COMBINED	n a		
	Mo	bility	Status	Mobility Status (At Interview)	tervie	(v)
(AT APPLICATION)					Total	a1
(1)	Œ	(2)	(3)	(4)	No.	%Dist.
(1) - No Restriction 88	88.5	8.1	1.2	2.2	1084	73.8
(2) - Outdoors - Need Help of Person &/or Device 53	53.6	38.5	1.5	6.4	265	18.0
(3) - Confined Indoors - Able to Move About 44	44.7	23.7	7.9	23.7	38	2.6
(4) - Confined to Chair or Bed $\begin{vmatrix} 13 \end{vmatrix}$	13.9	33.3		52.8	36	2.4
(5) - Confined in Medical 51	51.1	23.4 2.1	2.1	23.4	47	3.2
Total % 78	8.0	78.0 15.1	1.4	5.5 1470 100.0	1470	100.0

TABLE 6.4

TOTAL NUMBER OF LIMITATIONS IN ACTIVITIES OF DATLY LIVING, SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

Total Number	Den:	ials	Allow	vances	Combi	ned
of Limitations	No.	%	No.	%	No.	%
0	400	58.2	223	28.2	623	42.3
1	118	17.2	177	22.4	295	19.9
2	70	10.2	108	13.7	178	12.1
3 - 5	75	10.9	185	23.5	260	17.6
6 - 8	20	2.9	61	7.8	81	5.5
9 - 11	4	.6	35	4.4	39	2.6
Total	687	100.0	789	100.0	1476	100.0

Average: 1.1 2.4 1.8 Unknown 3 1 4

TABLE 6.5

RANGE OF SCORES ON THE MOBILITY-ACTIVITY INDEX
(LEVEL OF INDEPENDENCE) BY INITIAL PRIMARY DIAGNOSIS,

DENIALS AND ALLOWANCES

					Initi	al Prim	ary D	iagnosi	s			
Range of			C	LRC						ESP		
Index Scores	Den	ials	Allo	wances	Comb	ined	Den	ials	Allo	wances	Comb	ined
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
07-09 (low)	-		5	1.4	5	0.8	-	-	1	0.9	1	0.6
10-12	1	0.4	8	2.2	9	1.5	-	-	3	2.7	3	1.7
13-15	2	0.8	10	2.8	12	2.0	1	1.5	3	2.7	4	2.2
16-18	5	1.9	15	4.2	20	3.3	1	1.5	7	6.2	8	4.5
19-21	14	5.4	38	10.7	52	8.5	3	4.5	11	9.8	14	7.9
22-24	86	33.2	163	45.8	249	40.4	25	37.9	52	46.4	77	43.3
25 (high)	151	58.3	117	32.9	268	43.5	36	54.6	35	31.3	71	39.8
Total	259	100.0	356	100.0	615	100.0	66	100.0	112	100.0	178	100.0
Average:	23	.8	22	•4	22	•9	23	.7	22	•3	22	.8

					Tniti	al Prim	arv D	ieanosi	9			
Kange of			N	ERV	1111 01	41 11111		Tagnosi		USC		
Index Scores	De	nials	Allo	wances	Comb	ined	Den	ials	Allo	wances	Comb	ined
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
07-09 (low)	-	-	11	5.6	11	3.5	2	0.8	3	2.4	5	1.3
10-12	1 0.9		10	5.1	11	3.5	4	1.6	9	7.3	13	3.5
13-15	1	0.9	18	9.1	19	6.1	4	1.6	6	4.8	10	2.7
16-18	5	4.4	25	12.6	30	9.6	5	2.0	16	12.9	21	5.6
19-21	8	7.1	42	21.2	50	16.1	26	10.4	23	18.5	49	13.1
22-24	41	36.3	65	32.8	106	34.2	69	27.5	50	40.4	119	31.7
25 (high)	57	50.4	27	13.6	84	27.0	141	56.1	17	13.7	158	42.1
Total	113	100.0	198	100.0	311	100.0	251	100.0	124	100.0	375	100.0
Average:	23	•3	19	.6	21	.0	23	.2	20	•3	22.3	

TABLE 6.6

MOBILITY-ACTIVITY INDEX BY
TIME PERIOD, DENIALS & ALLOWANCES

DENIALS

			Time	Period				
Mobility Activity		1		2		4	To	tal
Index	No.	%	No.	%	No.	%	No.	%
07-18 (Lo)	14	4.6	5	2.8	13	6.3	32	4.6
19-21	27	8.8	15	8.4	9	4.4	51	7.4
22-24	123	40.2	45	25.3	53	25.9	221	32.1
25 (Hi)	142	46.4	113	63.5	130	63.4	385	55.9
Total	306	100.0	178	100.0	205	100.0	689	100.0

ALLOWANCES

07-18 (Lo)	58	18.7	40	16.5	52	21.9	150	19.0
19-21	51	16.5	30	12.3	33	13.9	114	14.4
22-24	131	42.2	103	42.4	96	40.6	330	41.8
25 (Hi)	70	22.6	70	28.8	56	23.6	196	24.8
Total	310	100.0	243	100.0	237	100.0	790	100.0

COMBINED

				COLI	THE				
Γ	07-18 (Lo)	72	11.7	45	10.7	65	14.7	182	12.3
	19-21	78	12.7	45	10.7	42	9.5	165	11.2
	22-24	254	41.2	148	35.2	149	33.7	551	37.3
	25 (Hi)	212	34.4	183	43.4	186	42.1	581	39.2
T	Total	616	100.0	421	100.0	442	100.0	1479	100.0

TABLE 6.7

MOBILITY-ACTIVITY INDEX BY NUMBER OF CONDITIONS INTERFERING WITH WORK, DENIALS AND ALLOWANCES

DENTALS

ALLOWANCES

1									
		Total	P6	100.0	100.0	100.0	100.0	100.0	100.0
		Ť	No.	27	J ₂ Z	225	72	33	784
		High Level	82	81.5	8.42	18.2	19.4	21.2	24.2
		High	No.	. 22	106	747	174	_	190
		Medium Level	B	18.5	32.6	37.8	29.5	30.3	33.2
		Medium	No.	7	139	85	23	10	%
	dex *	Low Level	BS	ı	42.6	0.44	51.4	48.5	334 42.6 260
	ity In	Low	No.	1	182	66	37	16	334
	Mobility-Activity Index	Total	B	100.0	100.0	100.0	100.0	100.0	638 100.0
	obilit	TC	No.	72	305	175	59	27	638
	M	Level	8	91.7	55.1	37.7	44.1	33.3	52.5
COTTON TO		High Level	No.	99	168	99	%	0	335
		Medium Level	₽€	8.3	6.9	9.98	27.1	9.62	27.6
		Medium	No.	9	82	49	16	œ	176
		Low Level	PS	1	18.0	25.7	8.8	37.1	19.9
		Low	No.	'	55	45	17	10	127
	Number of	Conditions	With Work	None	Н	CJ	m	9-4	Total

_	_							
	Total	BO	100.0	100.0	100.0	100.0	100.0	100.0
	Ē	No.	66	732	7,000	131	09	1422
* udex	Level	PS.	88.9	37.4	%	30.5	28.7	36.9 1422 100.0
vity I	High Level	No.	88	274	107	70	76	525
Mobility-Activity Index	Medium Level	Bo	11.1	30.2	37.2	28.2	30.0	30.7
Mobili	Medium	No.	11	221	149	37	18	984
	Low Level	B	-	32.4	36.0	41.3	43.3	32.4
	Low	No.	1	237	144	54	%	194
Number of	Conditions	With Work	None	П	cu .	8	9-4	Total

* Outting points for Wobility-Activity Index distribution based on total sample and cumulatively grouped into thirds. Level of independence on this index increases directly, i.e., low to high level of independence.

TABLE 6.8

PROPORTION OF PRIMARY (FIRST) INITIAL DIAGNOSES OBSERVED IN CLINICAL EVALUATION, BY MAJOR DISEASE CATEGORIES, DENIALS AND ALLOWANGES

(, , , ,)		Denied			Allowed		Co	Combined	
Primary (First) Initial Diagnosis	No. Primary	Clinica	Clinically obs.	No. Primary	Clinica	Clinically obs.	No. Primary	Clinics	Clinically obs.
	Diagnosis	No.	26	Diagnosis	No.	PS	Diagnosis	No.	₽€
Allergic, endocrine, metabolic, & nutritional	9	8	50.0	2	7	50.0	₩	7	50.0
Psychoses & other mental disorders	2	t	ı	2	κ	0*09	7	8	42.9
Nervous disease - vascular lesions	77	11	78.6	19	67	80.3	75	09	80.0
Nervous disease - other CNS & sense organs	99	50	75.8	2/2	79	84.2	142	777	80.3
Circulatory disease - ASHD	121	108	89.3	152	125	82.2	273	233	85.3
Circulatory disease - HHD & other hypertensive diseases	39	57	61.5	52	31	9.69	91	55	7.09
Other circulatory diseases	36	56	72.2	54	77	75.9	8	67	74.4
Respiratory diseases	87	35	72.9	83	78	0*76	131	113	86.3
Arthritis and rheumatism	779	32	50.0	87	38	79.2	112	20	62.5
Other musculoskeletal diseases	57	36	63.2	17	13	76.5	774	67	66.2
Accidents and injuries	%	19	6.07	59	24	82.8	115	85	73.9
All other diseases not specified above	77	10	71.4	11	2	45.5	25	15	0.09
Base N	553			590			1143		

TABLE 6.9

PERCENTAGE OF EACH INITIAL PRIMARY DIAGNOSIS GROUP WITH CLINICALLY DETERMINED DIAGNOSES, BY MAJOR DIAGNOSTIC GROUP*, FOR DENIALS AND ALLOWANCES

			Ini	tial P	Initial Primary Diagnosis	iagnosi	ι.			
Clinic diagnoses by major diagnostic group	Circ	0	Resp	Q,	Nerv	Δ	Musc	0	Total	al
	D	А	D	A	Q	A	D	А	D	A
Allergic, endocrine, metabolic, & nutritional	16.8	24.0	25.0	8,2	12.8	15.5	10.0	17.0	14.3	18.3
Psychoses & other mental disorders	8.1	7.8	26.9	7.6	12,8	16.1	12.9	8.5	12.5	10.7
Nervous disease - vascular lesions	7.1	15.6	3.8	7.1	19.1	9.17	1.0	1.2	6.5	19.2
Nervous disease - other CNS & sense organs	17.3	13.2	11.5	11.8	58.5	51.6	12,4	25.5	21.9	25.4
Circulatory disease - ASHD	66.5	75.4	23.1	21.2	19.1	21.1	13.8	22.3	34.4	43.1
Circulatory disease - HHD & other hypertensive	23.3	27.6	7.7	11.8	12.8	16.8	13.3	11.7	16.3	19.8
Other circulatory diseases	32.0	8.07	17.3	37.6	23.4	24.8	19.0	17.0	24.2	32,2
Respiratory diseases	21.3	23.6	71.2	92.9	19.1	14.3	26.2	25.5	27.5	33.5
Arthritis and rheumatism	11.7	9*11	19.2	11.8	9.6	8.7	29.0	8.97	18.6	16.4
Other musculoskeletal diseases	5.1	5.2	11.5	11.8	11.7	5.6	30.0	25.5	16.3	6.6
Accidents and injuries	10.7	7.6	15.4	9.01	18.1	8.7	0.07	29.8	23.5	11.9
All other diseases not specified above	54.3	52.8	65.4	78.5	58.5	45.3	55.2	42.6	56.4	48.5
Base N	16t	250	52	85	7/6	191	210	7/6	553	590
Base %	100.0 100.0	0.00	100.0 100.0	100.0	100.0 100.0	100.0	100.0 100.0	100.0	100.0 100.0	100.0

* Each major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of other disease conditions attributed to individuals

TABLE 6.10

PERCENTAGE DISTRIBUTION OF POST-ONSET WORK STATUS BY CLINICAL DIAGNOSES, EACH MAJOR DIAGNOSTIC GROUP*, DENIALS AND ALLOWANCES

POST-ONSET WORK STATUS	Д	Ą	Comb.	Д	Ą	Comb.	Д	Ą	Comb.	А	Ą	Comb.
					M	AJOR DIAG	MAJOR DIAGNOSTIC GROUP	OUP				
	Allerg	Allergic & Related Diseases	alated	Men	Mental Diseases	Ses	SNID	S - Stroke	ke	Othe	Other Nervous Sense Organs	as su
AGON HON		1 6		3	8		מ מ	6	200	200	8E 7	72 5
BESTIMED WORK	10 5 10 5	1.6	t . c .	33.3	; °	200	2000	7 -	200	33.0	- 6	200
CONTINUOUS WORK	7.6	2.6	6.5	13.0	. 6	, e	, «, , «,	5.00	7.4	7.5	.00	6.0
TOTAL N	79	107	186	69	63	132	36	112	148	121	147	268
	Cir	Circ AS	ASHD	Circ.	- HHD &	HHD & Hypert.	Ci	Circ Other	her	Respi	Respiratory Disease	isease
NOT WORK RESUMED WORK	53.1	86.2	72.0	51.1	89.6	72.7	52.3	86.8 10.0	72.5	38.8	7.1	74.7
CONTINUOUS WORK	5.8	4.3	5.0	7.8	5.2	6.3	3.7	3.2	3.4	5.9	2.2	3.9
TOTAL N	190	253	443	8	115	205	134	190	324	152	184	336
				Other	Musculoskeletal	keletal						
	Arth.	. & Rheu	in:		Diseases		Acciden	Accidents and Injuries	njuries	A11 O	All Other Diseases	eases
NOT WORK	58.3	80.4	0.69	9.99	85.7	67.8	46.2	7.67	57.8	54.2	85.2	0.69
RESUMED WORK	33.0	15.5	24.5	37.8	8.9	26.7	6.94	17.4	36.7	38.5	11.3	25.5
CONTINUOUS WORK	8.7	4.1	6.5	5.6	5.4	5.5	6.9	2.9	5.5	7.3	3.5	5.5
TOTAL N	103	16	200	8	26	146	130	69	199	312	284	965
		-		-							and designation of the latest designation of	

*Bach major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of other disease conditions attributed to individuals.

TABLE 6.11

PERCENTAGE DISTRIBUTION OF NUMBER OF CONDITIONS THAT INTERPREE WITH WORK BY CLINICAL DIAGNOSES, EACH MAJOR DIAGNOSTIC GROUP*, DENIALS AND ALLOWANCES

															_					
Comb.		ous &	6.1	30.3	3.8	796		isease	3.6	31.8	12.7		330	seases		4.9	47.9	30.3	5.2	580
A		Sense Organs	3.4	25.0	1.0	148		Respiratory Disease	2.2	28.8	12.5	t .	184	Other Diseases		2.1	51.6	31.1	5.3	283
А		Other	9.5	37.1	2.6	711		Respir	39.7	35.6	13.0	O	146	A11 0		10.4	44.5	0.00	5.1	297
Comb.		oke	2.7	33.5	2.7	170		ier	14.7 145.6	35.2	10.4	† †	318	Injuries		10.0	43.7	32°L	3.7	190
A	E. E.	3 - Stroke		35.4	р. 1.80	113		c Other	2.7	36.2	ω = Γ, α	÷	188	and		7.2	47.9	33.4	1.4	69
А	STIC GROUP	CINS	11.1	27.8	5.5	98		Circ.	7.7	33.8	13.1	7 * C	130	Accidents		9.11	41.3	31.4	5.0	121
Comb.	MAJOR DIAGNOSTIC	ses	5.5	25.4	7.9	901		Hypert.	4.9	35.8	رن - س-	† •	204	celetal		6.3	51.7	30°T	2.5	143
<	MAG	al Diseases	6.5	21.0	12.8 2.3 2.3	69		HHD %	4.3	37.6	ω n	T: (117	Musculoskeleta Diseases		1.8	51.8	33.9	14.7	56
А		Mental	4.7	29.7	7.8	1/9		Circ	9.2	33.3	10.3		87	Other M		9.5	51.8	27.5 0.0	3.4.	87
Comb.		Related	6.6	30.8	6.6	180		ASHD	7.5	30.0	4.0	5	437	Rheu.		3.0	46.7	30.5	6.1	197
A		Allergic & Re. Diseases	9.4	31.5	7.7	80		Circ AS	3.6	33.3	8 -	t :	252	~8	3	1.0	45.3	32.0	5.2	97
۵		Aller	36.5	29.7	18.9	7/1	-	Ci	13.0	25.4	10.3	i.	185	Arth.		5.0	0.84	29.0	7.0	100
No. of Conditions Interfere with Work			NONE	1 (1	3 4-6	TV TV MC	W TOTOT		NONE	5 7	m_	0-1	TOTAL N			NONE	Н.	01	3 4-6	TOTAL N

*Bach major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of conditions attributed to individuals.

TABLE 6.12

PERCENTAGE DISTRIBUTION OF MOBILITY-ACTIVITY INDEX SCORES BY CLINICAL DIAGNICSES, EACH MAJOR DIAGNICSTIC GROUP*, DENIALS AND ALLOWANCES

MOBILITY-												
INDEX	Д	A	Comb.	Д	A	Comb.	D	А	Comb.	Д	А	Comb.
					M	MAJOR DIAGNOSTIC	IOSTIC G	GROUP				
	Aller	Allergic & Related	lated							Other	er Nervous	% snc
		Diseases		Me	Mental Diseases	eases	ପ	CNS - Stroke	oke	Ser	Sense Organs	ins
(01) 81-70	7	10 1	13.0	α u	סקר	901	α	23 6	7.00	-	90	6 21
	10:1	18.5	15.0	13.0	17.5	15.2	27.0	3.0	18.9	7 1.	10.0	10.1
22-24	35.4	38.0	36.9	40.6	41.2	40.9	4.44	28.3	32.2	34.2	42.0	38.5
25 (hi)	48.2	24.1	34.2	9.04	25.4	33.3	41.7	15.1	21.5	54.1	19.3	34.8
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							1					
TOTAL N	79	108	187	69	63	132	36	113	149	120	150	270
	딍	Circ AS	ASHD	Circ.	- HTD &	Hypert.	Ci	Circ Other	her	Respi	Respiratory Disease)îsease
07-18 (10)	1.6	14.6	0.6	4.4	12.8	9.2	4.5	18.4	12.7	w w	14.6	9.5
	7.4	14.2	11.3	5.6	17.9	12.6	6.7	15.8	12.0	10.6	14.6	12.8
22-24	32.6	40.5	37.2	41.1	43.7	42.5	36.6	41.1	39.2	37.7	43.8	41.1
(1U) <>	70.4	30.7	4×.5	40.0	0.62	35.7	25.25	54.7	36.L	48.4	27.0	36.6
												1
TOTAL N	130	254	4444	8		207	134	190	324	151	185	336
	12	0		Other		skeletal						
	2			-	LISCASCS		ACCIO	Accidents and	Injuries	ATT	orner Dis	Ulseases
07-18 (10)	3.9	26.8	15.0	5.6	23.2	12,3	8.5	8.6	8,5	5.1	18.2	11.4
19-21	7.8	15.5	11.5	12.2	21.4	15.8	8.5	21.4	13.0	4.9	16.4	11.2
22-24	35.9	37.1	36.5	30.0	39.3	33.6	27.6	41.4	32.5	37.6	40.2	38.9
25 (hi)	52.4	20.6	37.0	52.2	16.1	38.3	55.4	28.6	746.0	50.9	25.2	38.5
									1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1
TOTAL N	103	26	200	90	96	146	130	70	200	311	286	265

*Each major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of the other disease conditions attributed to individuals.

TABLE 6.13

PERCENTAGE DISTRIBUTION OF FUNCTIONAL CLASSIFICATION OF DISEASE BY CLINICAL DIAGNOSIS, SELECTED MAJOR DIAGNOSTIC GROUFS*, DENIALS AND ALLOWANCES

				Circu	latory	Circulatory Disease				Respira	Respiratory Disease	sease
Functional		ASHD		HHD	HHD & Hypert.	rt.		Other				
of Disease a.	Q	A	Comb.	D	A	Comb.	Q	А	Comb.	Д	А	Comp.
Grade I	16.9	11.6	13.9	24.6	13.9	18.4	6.9	13.6	11.2	36.5	13.4	23.2
Grade II	67.5	45.9	55.3	59.6	53,2	55.9	67.2	37.9	48.4	44.3	34.5	38.6
Grade III	15.6	39.6	29.2	15.8	31,6	25.0	25.9	40.7	35.4	19.2	42.2	32.5
Grade IV	1	2.9	1.6	1	1.3	0.7	1	7.8	2.0	ł	6.6	5.7
Total N	160	207	367	57	79	136	58	103	161	104	142	246
	30	47	77	33	38	71	9/	87	163	48	43	91
		Ne	Neurological Disease	al Dise	ase			Muscr	Musculoskeletal Disease	tal Dis	ease	
		Stroke			Other		Art	Arth. & Rheu.	·ne		Other	
	Q	A	Comb.	D	A	Comb.	D	Α (Comb.	Q	A	Comb.
Grade I	28.6	7.9	11.8	20.0	5.0	9.6	18.7	7.7	13.6	30.8	9.7	24.0
Grade II	42.8	30,3	32.7	57.1	15.0	27.8	49.3	33.8	42.1	41.5	32.3	38.5
Grade III	28.6	43.8	41.0	20.0	48.8	0.04	30.7	46.2	37.9	26.2	54.8	35.4
Grade IV	;	18.0	14.5	2.9	31.2	22.6	1.3	12.3	6.4	1.5	3.2	2.1
Total N	21	68	110	35	80	115	75	65	140	9	31	96
N.A.	15	24	39	98	70	156	28	32	60	25	25	50

* Each major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of other disease conditions attributed to individuals.

Patient with disorder with slight to moderate limitation of physical activity. Patient with disorder with moderate to great limitation of physical activity. Patient with disorder unable to carry on any physical activity. Patient with disorder without limitation of physical activity. a. Grade I. Grade II. Grade III. Grade IV.

TABLE 6.14

DISTRIBUTION OF ELECTROCARDIOCRAPHIC BASELINE READINGS BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

, L				CIRC.						RESP.		
Reading	Dei	Denied	A11c	Allowed	Com	Combined	Der	Denied	Allowed	wed	Comp	Combined
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No abnormalities	42	21.7	28	11.3	70	15.8	10	19.6	13	15.9	23	17.2
Myocardial infarction	73	37.7	93	37.5	166	37.5	7	13,7	10	12,2	17	12.8
L. ventricular hypertrophy	16	8.2	30	12.1	94	10.4	1	2.0	-	1.2	2	1.5
R. ventricular hypertrophy	1	0.5	2	0.8	m	0.7	1	;	1	1.2	1	0.8
Subendocardial ischemia	;	!	1	0.4	H	0.2	1	+	1	;	1	1
Nonspecific ST-T wave	11	5.7	27	10.9	38	9.8	5	8.6	12	14.6	17	12.8
L. ventricular ischemia	∞	4.1	18	7.3	26	5.9	1	1	1	1	1	i
L. bundle branch block	2	2.6	2	2.0	10	2.3	1	1	1	1	1	1
R. bundle branch block	1	0.5	7	2.8	∞	1.8	1	1	4	6.4	4	3.0
I-V block	2	1.0	.6	3.6	11	2.5	1	1	5	6.1	2	3.8
Atrial fibrillation	2	1.0	1	0.4	m	0.7	1	1	1	1.2	1	0.8
Other abnormalities	33.	17.0	27	10.9	09	13.6	28	6.49	35	42.7	63	47.3
Total	194	100.0	248	100.0	442	100.0	51	100.0	82	100.0	133	100.0
No ECG	en en		2		5				6		77	

TABLE 6.14 (CONT.)

DISTRIBUTION OF ELECTROCARDIOGRAPHIC BASELINE READINGS BY INITIAL FRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

			NE	NERV.					M	MUSC.		
ECG Baseline Reading	Dei	Denied	Allowed	wed	Com	Combined	Dei	Denied	Allc	Allowed	Comb	Combined
0	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No abnormalities	36	39.1	48	31.5	84	34.4	84	40.7	22	24.7	106	36.0
Myocardial infarction	7	7.6	29	19.1	36	14.8	22	10.7	20	22.5	42	14.2
L. ventricular hypertrophy	11	12.0	17	11.2	28	11.5	21	10.2	∞	0.6	29	9.8
R. ventricular hypertrophy	П	1.1	1	1	-	4.0	f	:	1	;	1	ŀ
Subendocardial ischemia	1	1	1	1	1	!	1	1	1	ł	1	1
Nonspecific ST-T wave	4	4.3	15	6.6	19	7.8	16	7.8	6	10.1	25	8.5
L. ventricular ischemia	1	1.1	6	2.0	4	1.6	2	1.0	-1	1.1	33	1.0
L. bundle branch block	1	1	1	1	1	;	1	;	1	1	1	1
R. bundle branch block	2	2.2	2	1.3	4	1.6	-	0.5	9	3.4	4	1.4
I-V block	2	2.2	9	3.9	∞	3.3	∞	3.9	9	6.7	14	4.7
Atrial fibrillation	1	1.1	;	;	-	4.0	2	1.0	1	; .	2	0.7
Other abnormalities	27	29.3	32	21.1	59	24.2	20	24.2	20	22.5	70	23.7
Tota1	92	100.0	152	100.0	244	100.0	206	100.0	68	100.0	295	100.0
No ECG	2		6		11		7		5		6	

TABLE 6.14 (CONT.)
DISTRIBUTION OF ELECTROCARDIOGRAPHIC BASELINE READINGS
BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOMANGES

			TO	TOTAL		
ECG Baseline	Der	Denied	All	Allowed	Combined	ned
Surpay	No.	%	No.	%	No.	%
No abnormalities	172	31.8	111	19.4	283	25.5
Myocardial infarction	109	20.1	152	26.5	261	23.4
L. ventricular hypertrophy	64	0.6	56	8.6	105	9.4
R. ventricular hypertrophy	2	4.0	9	0.5	5	0.4
Subendocardial ischemia	1	1	7	0.2	1	0.1
Nonspecific ST-T wave	36	9.9	63	11.0	66	8.9
L. ventricular ischemia	11	2.0	22	3.9	33	3.0
L. bundle branch block	5	6.0	5	6.0	10	6.0
R. bundle branch block	4	0.7	16	2.8	20	1.8
I-V block	12	2.2	26	9.4	38	3.4
Atrial fibrillation	5	6.0	2	4.0	7	9.0
Other abnormalities	138	25.4	114	20.0	252	22.6
Total	543	100.0	571	100.0	1114	100.0
No ECG	10		19		29	

TABLE 6.15 DISTRIBUTION OF JOINT RANGE OF MOTION AND MUSCLE STRENGTH SUMMARY INDEX SCORES, DENIALS AND ALLOWANCES

Summary		Ra	nge o	of Motic	n			IV.	uscle	Streng	th	
Index	De	nials	Allo	wances	Com	bined	De	nials	Allo	wances	Combi	ned
Score *	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
000	156	29 .0	131	24.0	287	26.5	121	22.9	82	15.3	203	19.1
001-009	236	43.9	212	38.9	448	41.5	184	34.9	151	28.2	335	31.5
010-019	113	21.1	116	21.3	229	21.1	104	19.7	107	20.0	211	19.9
020-039	28	5.2	71	13.1	99	9.2	64	12.1	87	16.2	151	14.2
040-059	3	.6	8	1.5	11	1.0	28	5.3	34	6.3	62	5.8
≥ 060	1	.2	6	1.2	7	.7	27	5.1	75	14.0	102	9.5
Total	537	100.0	544	100.0	1081	100.0	528	100.0	536	100.0	1064	100.0
Average:	6.	7	10.	1	8.	4	14.	6	24.	6	19.	6
Unknown	1	.6	14	-6	6	2	2	25	5	4	7	9

^{*}Higher score indicates increased level of limitation on each measure.

TABLE 6.16

JOINT RANGE OF MOTION SUMMARY INDEX SCORE BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

Summary			C	IRC					F	ESP		
Index	De	nials	Allo	wances	Com	bined	De	nials	Allo	wances	Com	bined
Score *	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
000	76	38.9	72	30.5	148	34.4	13	26.0	24	30.0	37	28.5
001-009	93	47.7	94	39.9	187	43.4	27	54.0	30	37.5	57	43.8
010-019	20	10.3	47	19.9	67	15.5	9	18.0	21	26.3	30	23.1
020-039	6	3.1	19	8.0	25	5.8	1	2.0	5	6.2	6	4.6
040-059	-	-	3	1.3	3	.7	-	-	-	-	-	-
≥ 060	-	-	1	.4	1	.2	-	-	-	-	-	-
Total	195	100.0	236	100.0	431	100.0	50	100.0	80	100.0	130	100.0
Average:	4.	2	7.	5	6.	0	5.	7	7.	0	6.	5
Unknown	2		1	4.	1	.6		2		5		7

0			N	ERV					MI	JSC		
Summary Index	De	nials	Allo	wances	Com	bined	De	nials	Allo	wances	Com	bined
Score*	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
000	31	34.0	31	21.5	62	26.4	36	17.9	4	4.8	40	14.0
001-009	30	33.0	59	41.0	89	37.9	86	42.8	29	34.5	115	40.4
010-019	22	24.2	31	21.5	53	22.5	62	30.8	17	20.2	79	27.7
020-039	5	5.5	22	15.3	27	11.5	16	8.0	25	29.7	41	14.4
040-059	3	3.3	1	.7	4	1.7	-	-	4	4.8	4	1.4
≥ 060	-	-	-	-	-	-	1	•5	5	6.0	6	2.1
Total	91	100.0	144	100.0	235	100.0	201	100.0	84	100.0	285	100.0
Average:	8.	1	9.	7	9.	1	8.	7	21.	2	12.	1.
Unknown		3	1	7	2	20		9	1	.0	1	9

^{*}Higher score indicates increased level of limitation on each measure.

MUSCLE STREAUTH SUMMARY INDEX SCORE BY
INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

Summary			C	IRC					R	ESP		
Index	De	nials	Allo	wances	Com	bined	De	nials	Allo	wances	Com	ined
Score*	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
000	43	22.4	47	20.5	90	21.3	15	30.0	16	20.2	31	24.0
001-009	90	46.7	80	34.8	170	40.3	14	28.0	34	43.0	48	37 •3
010-019	31	16.2	48	20.8	79	18.8	11	22.0	16	20.2	27	20.9
020-039	17	8.9	35	15.2	52	12.3	6	12.0	10	12.7	16	12.4
040-059	5	2.6	9	3.9	14	3.3	2	4.0	1	1.3	3	2.3
≥ 060	6	3.2	11	4.8	17	4.0	2	4.0	2	2.6	4	3.1
Total	192	100.0	230	100.0	422	100.0	5 0	100.0	79	100.0	129	100.0
Average:	10	.6	15	.1	13	.0	13	.2	11	.1	11.	9
Unknown		5		20		25		3		6	•	9

Summary			N	ERV					М	USC		
Index	De	nials	Allo	wances	Con	mbined	De	nials	Allo	wances	Cor	mbined
Score*	No.	%	No.	%	No.	%	No.	%	No.	% +	No.	%
000	20	22.3	17	11.9	37	15.8	43	21.9	2	2.4	45	- 16.1
001-009	24	26.6	24	16.6	48	20.5	56	28.6	13	15.6	69	24.7
010-019	17	18.9	24	16.6	41	17.5	45	22.9	19	22.9	64	22.9
020-039	13	14.4	22	15.3	35	15.0	28	14.3	20	24.2	48	17.3
040-059	7	7.8	17	11.9	24	10.3	14	7.1	7	8.4	21	7.5
≥ 060	9	10.0	40	27.7	49	20.9	10	5.2	22	26.5	32	11.5
Total	90	100.0	144	100.0	234	100.0	196	100.0	83	100.0	279	100.0
Average:	20.	2	39.	2	31.	9	16.	4	38.	4	22.	9
Unknown		3	1	.7	2	:O	1	4	1	1	2	5

^{*}Higher score indicates increased level of limitation on each measure.

CROSS-CLASSIFICATION OF JOINT RANGE OF NOTION AND MUSCIE STRENGTH SUMMARY INDEX SCORES BY INLITAL PRIMARY DIAGNOSIS, DENTAIS AND ALLOWANCES, PERCENTAGE DISTRIBUTION

Summary Index Score:	ex Score:		Circ			Resp			Nerv			Musc	
R.O.M.	M.S.	Denied	Denied Allowed Comb.	Comb.	Denied	Denied Allowed Comb.	Comb.	Denied	Denied Allowed Comb.	Comb.	Denied	Denied Allowed Comb.	Comb.
Normal	Normal	16.1	17.0 16.6	9.91	20.0	16.5 17.8	17.8	16.7	8.4	11.6	11,2	1	8,0
Normal	< Normal	22.9	13.9	18.0	0.9	13.9	10.9	17.8	13.3	15.0	7.1	5.1	6.5
< Normal	Normal	6.3	3.5	4.7	10.0	3.8	6.2	5.6	3.5	4.3	10.7	2.5	8.4
< Normal	< Normal	54.7	9*59	7.09	0*79	65.8	1.59	6.65	74.8	1.69	71.0	92.4	77.1
	Total	100.0	100.0	100.0	100.0	0,001 0,001	100.0	100.001	0.001 0.001 0.001	100.0	100.0	0.001	100.0
	N	192	230	755	50	6/	129	8	143	233	196	79	275
		$x^2 = 8$.	x2 = 8.4, P < .01		x ² = 3.2, P < .05	2, P < .	05	x ² = 6.	$x^2 = 6.4$, P < .01	0.1	$x^2 = 17$	x2 = 17.1, P < .001	.001

Summary Index Score:	dex Score:		A11	
R.O.M.	M.S.	Denied	Denied Allowed	Comb.
Normal	Normal	14.8	12.0	13.4
Normal	< Normal	74.6	12.4	13.5
< Normal	Normal	8.1	3.4	5.7
< Normal	< Normal	62.5	72.2	67.4
	Total	100.0	100.0	100.0
	N	528	533	1901
		2		100

x^ = 16.7, P < .001

* The summary index score distribution, for both variables, has been dichotomized into two categories: "normal" (score of zero: no limitation) and "less than normal" (score greater than zero: some level of limitation). χ^2 (two-tailed) test of independence between two samples: Denied and Allowed groups.

TABLE 6.19

MOBILITY-ACTIVITY INDEX SCORES BY FANGE OF MOTION SUMMARY INDEX SCORES, DENTALS AND ALLOMANCES

		-						
		Total	180	24.1	39.0	5 21.3	95 15.6	20 100.0 40 100.0 186 100.0 290 100.0 536 100.0 96 100.0 84 100.0 221 100.0 143 100.0 544 100.0
		TC	No.	131	212	116	8	544
		25		35.0	37.7 212	18.9	4.8	100.0
		S	No. %	20	54	27	12	143
Allowances		-24	No. %	21.3	7.44	22.2	11.8	100.0
Allo	ce)*	22-24	No.	147	66	64	%	221
	penden	19-51	No. %	41 22.0 102 35.2 155 28.9 11 11.5 23 27.4 47 21.3 50 35.0 131	98 52.7 119 41.0 236 44.0 29 30.2 30 35.7 99 44.7 54	42 22.6 54 18.6 113 21.1 23 24.0 17 20.2 49 22.2 27 18.9 116	5 2.7 15 5.2 32 6.0 33 34.3 14 16.7 26 11.8 12 8.4	100.0
	Inde	19	No.	23	30	17	17	48
	vel of	07-18	No. %	11.5	30.2	24.0	34.3	100.0
	x (Ler	-20	No.	Ħ	53	83	33	98
	y Inde		No. %	28.9	0.44	21.1	0.9	0.001
	tivit	Total	No.	155	236	113	32	536
	ity-Ac	10	No. %	35.2	41.0	18.6	5.2	100.0
	Mobility-Activity Index (Level of Independence)*	22-24 25	No.	102	119	54	15	290
Denials		-24	No. %	22.0	52.7	22.6	2.7	0.001
Den		22	No.	47	98	42		186
		.21	No. %	22.5	32.5	32.5	12.5	0.00
		19-51	No.	6	13	13	5	40 1
		07-18	96	3 15.0 9 22.5	30.0 13 32.5	20.0 13 32.5	7 35.0 5 12.5	0.00
		-70	No.		9	4	7	20 1
Summary	Index	Score:	H.O.M.	00 (Normal)	01-09	10-19	02 ^1	Total

Summary					Comi	Combined				
Index		Mobil	ity-Ac	ctivity	Inde	x (Leve	1 of	Mobility-Activity Index (Level of Independence)	dence)	
Score:	-20	07-18	19	19-51	22	22-24	25		Total	al
R.O.M.	No.	PQ.	No.	90,	No.	B	No.	100	No.	PC
00 (Normal)	17	12.1	32	25.8	88	21.6 152	152	35.1	286	26.5
01-09	35	30.2	43	34.7	197	48.4	173	0.04	844	41.5
10-19	27	23.3	30	24.2	91	22.4	81	18.7	229	21.2
1 20	700	34.4	13	15.3	31	7.6	27	6.2	117	10.8
Total	116	100.0	124	100.0	4:07	100.0	433	116 100.0 124 100.0 407 100.0 433 100.0 1080 100.0	1080	100.0

* Level of independence increases directly, i.e., high score indicates high level of independence.

TABLE 6.20

MOBILITY-ACTIVITY INDEX SCORES BY MUSCLE STRENCTH SUMMARY INDEX SCORES, DENIALS AND ALLOMANCES

				m	α.	. 0	5	0
		Total	₽€.	15.	28.2	20.0	36	100
		To	No.	82	151	107	196	536
			PG	24.1	36.2	23.4	16.3	0.00
		25	No.	34	51	33	23	141
nces		54	BQ	14.5	68 30.9 51 36.2 151	20.5	34.1	0.00
Allowances	e)*	22-24	No. %	33	89	45	75	220 1
A	ndenc	1,		5.9	4.4	7.0	0.68	0.0
	Indepe	19-21	No. %	13 1	20 24.4	17 20.7 45 20.5 33 23.4 107	32 39.0 75 34.1 23 16.3 196 36.5	82 10
	1 of :			3.2 13 15.9 32 14.5 34 24.1 82 15.3	2.9	2.9	1.0	0.0
	Mobility-Activity Index (Level of Independence)	07-18	No. % No. %	Ж	12 12.9	12 12.9	0.17 99	93 10
	Index		1 %		34.9	7.6	5.6	0.0
	vity	Tota1	· OI	31 17.1 85 29.5 120 22.8	.84 3	7.61 101 10.01 19.7	43 23.8 42 14.6 119 22.6	527 10
	y-Act:			9.5	59 32.6 115 39.9 184	0.0	9.	0.0
	bilit	25	No. %	85 29	15 39)T 9th	42 1/	88 100
	W.	-	Ż	1	1 9	<u>ر</u>	00	0
Denials		22-24	BQ	17.	32	98	23	100
Dei		ŭ	No.			48	43	181
		21	BQ	3 7.9	21.1	26.3	7.44	0.00
		19-51	No.		œ	10	17 44.7	38 1
		18	₽€	1 5.0	2 10.0	1	17 85.0	20 100.0 38 100.0 181 100.0 288 100.0 527 100.0 93 100.0 82 100.0 220 100.0 141 100.0 536 100.0
		07-18	No.		cu .	1	17	20 1
Summary	Index	Score:	M.S.	00 (Normal)	01-09	10-19	02 ^1	Total

Summe and					Com	Combined				
Index		Mobil	ity-Ac	tivity	Index	(Leve.	1 of	Mobility-Activity Index (Level of Independence	dence)	
Score:	-20	07-18	19-21	-21	20	22-24	25		Total	al
M.S.	No.	BQ	No.	Bo	No.	80	No.	%	No.	BR
00 (Normal)	4	3.5	16	13.3	63	15.7	119	27.7	202	19.0
01-09	17	12.4	28	23.3 127	127	31.7	991	38.7	335	31.5
10-19	12	10.6	27	22.5	93	23.2	79	18.4	211	19.8
> 50	93	73.5	6†	40.9 118	118	4.62	65	15.2	315	29.7
Total	113	113 100.0 120 100.0 401	120	100.0	401	100.0	429	100.0 429 100.0 1063 100.0	1063	100.0

* Level of independence increases directly, i.e., high score indicates high level of independence.

TABLE 6.21

PERCENTAGE DISTRIBUTION OF RANGE OF MOTION SUMMARY INDEX SCORES BY CLINICAL DIAGNOSES, EACH MAJOR DIAGNOSTIC GROUP*, DENIALS AND ALLOWANCES

Comb.		% snc	ans	21.6	19.6	255	Respiratory Disease	24.4	37.9	24.4	13.3	324		seases	24.7	43.3	22.8	9.2	567
Ą		Other Nervous	Sense Organs	16.9	19.1	136	atory I	22.4	33.9	25.9	17.8	174		All Other Diseases	24.1	39.8	55.6	13.5	266
D		Othe	Ser	26.9	20.2	119	Respir	26.7	45.6	22.7	0.80	150		ATT	25.2	9.94	22.9	5.3	301
Comb.			l Ke	16.5	28.82	139	er	26.1	40.2	51.6	12.1	306		Injuries	19.6	42.8	24.9	12.7	189
A	E E	ē	CNS - Stroke	15.4	27.9	104	Circ Other	26.3	36.5	22.3	14.9	175			24.6	38.5	15.4	21.5	65
Д	STIC GRO	Tabo	3	20.0	31.4	35	Cir	26.0	45.0	20.6	4.8	131		Accidents and	16.9	45.2	29.8	8.1	124
Comb.	MAJOR DIAGNOSTIC GROUP		Ses	23.4	21.8	124	ypert.	22.3	47.8	21.8	8.1	197	eletal		17.0	40.0	28.9	14.1	135
A	MAJ		Mental Diseases	15.8	19.3	57	HHD & Hypert.	20.9	47.3	23.6	8.2	110	Musculoskeletal	Diseases	16.3	45.9	20.4	20.4	64
АІ		,	Ment	29.8	23.0	29	Circ	24.1	48.4	19.5	0.8	87	Other M		17.4	38.4	33.7	10.5	98
Comb.		lated		23.9	20.0	180	ASHD	32.6	41.9	17.6	7.9	420		.j	19.0	34.2	18.5	28.3	184
A		Allergic & Related	Ulseases	24.3	22.3	103	Circ AS	29.1	39.7	20.1	11.1	234	i	Arth. & Rheu.	10.6	24.7	20.0	7.44	85
Д		Aller		23.4	3.9	77	Cin	37.1	9.44	14.5	3.00	186		Art	26.3	42.4	17.2	14.1	66
SUMMARY INDEX SCORE: R.O.M.				00 (Normal)	10-19 2 20	TOTAL N		00 (Normal)	01-09	10-19	20	TOTAL N			00 (Normal)	01-09	10-19	02 \	TOTAL N

*Each major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of other disease conditions attributed to individuals.

PERCENTAGE DISTRIBUTION OF MASCLE STRENGTH SUMMARY INDEX SCORES BY CLINICAL DIAGNOSES, EACH MAJOR DIAGNOSTIC GROUP*, DENIALS AND ALLOWANCES

*Each major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of other disease conditions attributed to individuals.

TABLE 6.23

SUMMARY OF FUNCTIONAL CAPACITY MEASURES: FERCENT RATED "NORMAL" OR WITHOUT LIMITATIONS, EACH MAJOR DIAGNOSTIC GROUP*, DENIALS AND ALLOWANCES

		Self-Assessment		Independent Assessment	sessment
Major Diagnostic		Mobility Activity	Non-specific to disease (P.T. evaluation)	disease tion)	Specific to disease (M.D. Evaluation)
Group	Status	Index	R.O.M.	M.S.C.	Func, Classif, d.
CNS-Stroke	D A	42 15	20 15	3 11	29 8
CNS-Other	ΟA	54 19	27 17	20 12	20 5
Circ-ASHD	D	58 31	3 7 29	27 21	17
Circ-HHD & Hypert.	ΩΨ	49 26	24 21	14 15	25 14
Circ-Other	D A	52 25	26 26	20 14	7 14
Resp.	D A	48 27	27 22	24 15	36 13
Arth. & Rheu.	D	52 21	26 11	26 7	19 8
MusculoOther	D A	52 16	17 16	19 8	31

^{*} Each major diagnostic group is the sum of clinical diagnoses observed within that category irrespective of other disease conditions attributed to individuals.

Table 6.12 Table 6.21 Table 6.22 a. Source of data:b. Source of data:c. Source of data:d. Source of data:

Table 6.13

B.D.I. ASSESSMENT OF MEDICALLY EXAMINED STUDY SAMPLE BASED ON CLINICAL EVALUATION MATERIAL AND EARNINGS RECORD, BY INITIAL PRIMARY DIAGNOSIS AND DETERMINATION FOR EACH TIME PERIOD, PERCENTAGE DISTRIBUTION

Primary	Determination:	ation:				m	D.I. Ass	B.D.I. Assessment					
Diagnosis	Initial		T.P. 1			T.P. 2			T.P. 4		1	ALL T.P.	
		A *	Д	No.	A*	А	No.	A*	Д	No.	*A	D	No.
CCL	A	85.3**	14.7	(102)	80.8	19.2	(78)	75.0ª.	25.0	(89)	81.0	19.0	(248)
CIRC	А	26.4	73.6**	(87)	24.1 ^a .	75.9	(54)	28.3	71.7	(53)	26.3	73.7	(194)
t	A	82.4	17.6	(34)	86.1	13.9	(36)	7.99	33.3	(15)	81.2	18.8	(85)
J. C. L. C.	А	16.7	83.3	(18)	26.7	73.3	(12)	36.8	63.2	(16)	86.9	73.1	(52)
TYCELLA	A	73.0 ^a ·	27.0	(4/2)	7.68	10.3	(36)	93.6	6.4	(47)	83.1	16.9	(160)
INERV	А	22.2	77.8	(42)	27.8	72.2	(18)	20.0	80.0	(30)	22.6	77.14	(63)
COTT	A	70.0ª·	30.0	(70)	**0.09	φ.04	(20)	87.9ª·	12.1	(33)	74.2	25.8	(63)
OGOW	А	20.4ª.	9.62	(86)	14.5	85.5**	(55)	28.1 ^b .	71.9	(57)	20.9	79.1	(210)
TABOR	А	78.8	21.2	(250)	81.5	18.5	(173)	82.2*	17.8	(163)	80.5	19.5	(586)
TOTAL	А	22.5	77.5	(548)	21.1	78.9	(142)	27.7	72.3	(128)	23.6	76.4	(645)

^{&#}x27;Includes an 'allowable' case who did not meet the earnings test at onset date or later. A total of 13 study members Most of these conditionally allowed cases were in the musculoskeletal disease system, 10 out of 13, and the majority of these cases were those initially denied, 8 out of 10. The inclusion of these cases in the B.D.I. 'allowed' catewere classified in this category; all others 'allowed' were those who met the earnings test at onset date or later. gory does not affect the respective proportions 'denied'.

b. Seven conditionally 'allowed' cases.

^{**}Significant difference in proportions.

a. One conditionally 'allowed' case.

TABLE 6.25

NUMBER OF HOSPITALIZATIONS OVER THE PAST FIVE YEARS BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

	Combined	Bo	28.1	7.42	21.3	10.7	15.2	100.0			25.9	9.62	20.5	12.8	11.2	100.0	
	Comi	No.	50	th	38	19	27	178	1.6		16	נננ	7.7	84	742	375	1.5
RESP	ances	<i>%</i>	23.2	25.9	17.9	13.4	19.6	100.0		MUSC	25.0	25.0	17.8	16.1	16.1	100.0	
R	Allowances	No.	%	83	20	15	22	112	1.8	MU	31	31	22	8	20	124	1.7
	als	₽Q	36.3	22.7	27.3	6.1	7.6	100.0			8.3	31.8	21.9	11.2	8.8	100.0	
	Denials	No.	54	15	18	47	10	99	1.3		99	80	55	82	22	251	1.4
	Combined	₽€	19.8	28.7	22.1	9.41	14.8	100.0			20.8	34.7	21.8	11.5	11.2	100.0	
	Com	No.	122	176	136	96	16	615	1.8		49	108	89	%	35	312	1.6
CIRC	Allowances	BQ	18.3	24.7	21.6	16.0	19.4	100.0		NERV	16.7	.35.3	19.2	13.1	15.7	100.0	
5	Allow	No.	65	88	77	57	69	356	1.9		33	70	38	%	31	198	1.8
	als	BQ	22.0	34.0	22.8	12.7	8.5	100.0			28.1	33.3	26.3	8.8	3.5	100.0	
	Denials	No.	57	88	59	33	22	259	1.5		32	38	30	10	4	777	1.3
1	NO. Hosmitalions		0	П	Ø	8	+ †	Total	Average:		0	П	N	m	4 +	Total	Average:

TABLE 6.25 (Cont'd)

NUMBER OF HOSPITALIZATIONS OVER THE PAST FIVE YEARS BY INITIAL PRIMARY DIAGNOSIS, ALL

	Combined	P6	22.6	29.6	21.6	13.0	13.2	1480 100.0
	Com	No.	334	439	319	193	195	1480
	Allowances	Se Se	19.6	27.6	19.9	14.9	18.0	790 100.0
A11	Allow	No.	155	218	157	118	142	790
	als	8	25.9	32.0	23.5	10.9	7.7	100.0
	Denials	No.	179	221	162	75	53	069
	No. Hospitalizations	4	0	П	α	т	+ †	Total

1.6

1.8

1.4

Average:

TABLE 6.26

			TOTAL DAYS	OF HOSPITAI RIMARY DIAC	TOTAL DAYS OF HOSPITALIZATION* OVER PAST FIVE YEARS BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES	TER PAST FIV ALS AND ALI	E YEARS OWANCES			
			DENIALS					ALLOWANCES		
Days of Hospitalizat'n No. %	CIRC. No. %	RESP.	NO. %	MUSC.	TOTAL No. %	CIRC. No. %	RESP. No. %	NO. %	MUSC.	TOTAL No. %
< 1 Month	80 40.2	20 50.0	49 61.9	74 40.3	74 40.3 223 44.5	85 29.4	33 38.8	48 29.4	29 31.5	195 31
1 < 2 Months	76 38.2	6 15.0	15 19.1	40 21.7	137 27.3	89 30.8	20 23.5	45 27.6	22 23.9	176 28
2 < 3 Months	26 13.1	5 12.5	4 5.1	30 16.3	65 12.9	44 15.2	13 15.3	16 9.8	8.6 6	82 13
> 3 Months	17 8.5		9 22.5 11 13.9	40 21.7	40 21.7 77 15.3 71 24.6	71 24.6	19 22.4	54 33.2	32 34.8	176 28
Total	199 100.0		79 100.0	184 100.0	40 100.0 79 100.0 184 100.0 502 100.0 289 100.0	289 100.0	85 100.0	163 100.0	92 100.0	629 100
Average (days) 40.7	40.7	44.3	34.3	47.6	42.5	51.8	48.0	54.0	54.1	52.2

					COMBINED	NED				
Days of	IJ	CIRC.	EN.	RESP.	띩	NERV.	到	MUSC.	띩	TOTAL
Hospitalization No.	No.	%	No.	%	No.	%	No.	%	No.	%
< 1 Month	165	165 33.8		53 42.4	16	97 40.0 103 37.3 418 36.9	103	37.3	418	36.9
1 < 2 Months	165	165 33.8	26	26 20.8	09	60 24.8	62	62 22.5 313 27.7	313	27.7
2 < 3 Months	70	14.4		18 14.4	20	8.3		39 14.1 147	147	13.0
> 3 Months	88	88 18.0	28	28 22.4	65	65 26.9 72 26.1 253 22.4	72	26.1	253	22.4
Total	488	100.0	125	488 100.0 125 100.0 242 100.0 276 100.0 1131 100.0	242	100.0	276	100.0	1131	100.0
Average (days) 47.3	47.	3	46.7	7	47.5	5	49.8	8	47.9	6

* Excluding those with no hospitalization over the past five years.

TABLE 6.27

INDEX OF ANNUAL HEALTH* VISITS BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

DENTALS.

 				THID						
ndex of Annual Health Visits		Circ	F	Resp	N	erv	M	fusc	To	tal
Terciles**	No.	%	No.	%	No.	%	No.	%	No.	%
Low	92	35·5ª.	19	28.8 ^b ·	54	47.3	113	45.0 ^d	278	40.3 ^e ·
Medium	87	33.6	25	37.9	36	31.6°	72	28.7	220	31.9
High	80	30.9	22	33.3	24	21.1	66	26.3	192	27.8
Total	259	100.0	66	100.0	114	100.0	251	100.0	690	100.0
Average	10.	9	11.	6	8.	7	10.	2	10.	3
		ALI	OWANCES							
Low	73	20.5ª·	28	25.0 ^b	80	40.4	63	50.8 ^d .	244	30.9 ^e ·
Medium	137	38.5	44	39.3	55	27.8°	32	25.8	268	33.9
High	146	41.0	40	35.7	63	31.8	29	23.4	278	35.2
Total	356	100.0	112	100.0	198	100.0	124	100.0	790	100.0
Average	14.	6	12.	6	11.	9	9.	2	12.	8
			C	OMBINED						

			C	OMBINED						
Low	165	26.8	47	26.4	134	42.9	176	47.0	522	35.2
Medium	224	36.4	69	38.8	91	29.2	104	27.7	488	33.0
High	226	36.8	62	34.8	87	27.9	95	25.3	470	31.8
Total	615	100.0	178	100.0	312	100.0	375	100.0	1480	100.0
Average	13.	0	12.	2	10.	8	9.	9	11.	6

- The Index of annual health visits is a summary measure derived from the relative frequency of contacts with medical and para-medical personnel over the past year. Such personnel include physicians, osteopaths, nurses, therapists, and other health-service workers. Midpoint scores of grouped intervals were assigned to each variable (type of medical-health contact) and, for each individual, these scores were then summed over all variables to obtain the index measure.
- ** Tercile cutting points for index based on combined total distribution. The range in scores for each category are as follows: low (00-04), medium (06-14), high (16-73).

Kolmorgorov-Smirnov 2-sample test:

- a. D = .150 ; \overline{D} = .112 , P < .05 b. D = .038 ; \overline{D} = .211 , n.s. c. D = .107 ; \overline{D} = .159 , n.s. d. D = .058 ; \overline{D} = .150 , n.s. e. D = .094 ; \overline{D} = .071 , P < .05

TABLE 6.28

SUMMARY OF PERSONAL ASSISTANCE RECEIVED* FOR THOSE WITH STATED HEALTH PROBLEMS, BY INITIAL PRIMARY DIAGNOSIS, DENIALS AND ALLOWANCES

DENIALS

Personal Assistance	C	irc	R	esp	N	lerv	M	lusc	То	tal
Received	No.	%	No.	%	No.	%	No.	%	No.	%
None	150	63.7ª·	42	66.6 ^b .	67	61.5 ^c ·	157	68.o ^d	416	65.2 ^e
1	54	23.0	15	23.8	18	16.5	47	20.3	134	21.0
2	18	7.7	3	4.8	14	12.8	16	6.9	51	8.0
3	11	4.7	1	1.6	4	3.7	6	2.6	22	3.4
14+	2	0.9	2	3.2	6	5.5	5	2.2	15	2.4
Sub Total	235	100.0	63	100.0	109	100.0	231	100.0	638	100.0
Average		0.6		0.5		0.8		0.5		0.6
No. & % With No Health Problems	24	9.3	3	4.5	5	4.4	20	8.0	52	7.5
Total	259		66		114		251		690	

ALLOWANCES

None	143	40.9ª·	43	39.1 ^b .	78	39.8°	46	37.6 ^d .	310	39.8 ^e
1	108	30.9	38	34.5	59	30.1	39	32.0	244	31.4
2	61	17.4	17	15.5	27	13.8	19	15.6	124	15.9
3	20	5.7	8	7.3	19	9.7	8	6.6	55	7.1
4+	18	5.1	4	3.6	13	6.6	10	8.2	45	5.8
Sub Total	350	100.0	110	100.0	196	100.0	122	100.0	778	100.0
Average		1.1		1.0		1.2		1.2		1.1
No. & % With No Health Problems	6	1.7	2	1.8	2	1.0	2	1.6	12	1.5
Total	356		112		198		124		790	

^{*} The measure of personal assistance received is based on the total number of persons providing aid to the individual at his place of residence. This measure includes household members, non-household relatives and friends, and others such as a home-maker, day worker, or housekeeper.

Kolmorgorov-Smirnov 2-sample test:

- a. D = .229; $\overline{D} = .114$, P < .05b. D = .276; $\overline{D} = .215$, P < .05c. D = .217; $\overline{D} = .163$, P < .05d. D = .293; $\overline{D} = .152$, P < .05e. D = .254; $\overline{D} = .072$, P < .05

TABLE 6.28 (Cont'd)

SUMMARY OF PERSONAL ASSISTANCE RECEIVED* FOR THOSE WITH STATED HEALTH PROBLEMS, BY INITIAL PRIMARY DIAGNOSIS, COMBINED

COMBINED

Personal Assistance	C	irc	R	esp	IN	erv	IV.	lusc	To	tal
Received	No.	%	No.	%	No.	%	No.	%	No.	%
None	293	50.1	85	49.1	145	47.6	203	57.5	726	51.3
1	162	27.7	53	30.6	77	25.3	86	24.4	378	26.7
2	79	13.5	20	11.6	41	13.4	35	9.9	175	12.4
3	31	5.3	9	5.2	23	7.5	14	4.0	77	5.4
4+	20	3.4	6	3.5	19	6.2	15	4.2	60	4.2
Sub Total	585	100.0	173	100.0	305	100.0	353	100.0	1416	100.0
Average		0.9		0.8		1.0		0.8		0.9
No. & % With No Health Problems	30	4.9	5	2.8	7	2.2	22	5.9	64	4.3
Total	615		178		312		375		1480	

^{*} The measure of personal assistance received is based on the total number of persons providing aid to the individual at his place of residence. This measure includes household members, non-household relatives and friends, and others such as a homemaker, day worker, or housekeeper.

TABLE 6.29

REPORTED PHYSICAL AND OCCUPATIONAL THERAPY SERVICES RECEIVED BY NUMBER OF AGENCIES, FOR EACH INITIAL PRIMARY DIAGNOSIS GROUP, DENIALS AND ALLOWANCES

NUMBER OF					DEN	IALS				
AGENCIES	CI	RC.	RE	SP.	NE	RV.	MU	SC.	TOT	ΓAL
	No.	%	No.	%	No.	-%	No.	%	No.	%
None	253	98.1	61	95.3	102	90.3	235	94.0	651	95.1
1	5	1.9	2	3.1	10	8.8	14	5.6	31	4.5
2-3			1	1.6	1	0.9	1	0.4	3	0.4
Total	258	100.0	64	100.0	113	100.0	250	100.0	685	100.0

NUMBER OF					ALLOW	ANCES				
AGENCIES	CI	RC.	RE	SP.	NE	RV.	MU	SC.	TO	ΓAL
	No.	%	No.	%	No.	%	No.	%	No.	%
None	329	94.5	107	96.4	165	84.1	113	92.6	714	91.9
1	17	4.9	4	3.6	25	12.8	8	6.6	54	6.9
2-3	2	0.6			6	3.1	1	0.8	9	1.2
Total	348	100.0	111	100.0	196	100.0	122	100.0	777	100.0

NUMBER OF					CO	MBINED				
AGENCIES	CI	RC.	RE	SP.	NE	RV.	MU	SC.	TOT	CAL
	No.	%	No.	%	No.	%	No.	%	No.	%
None	582	96.1	168	96.0	267	86.4	348	93.6	1365	93.4
1	22	3.6	6	3.4	35	11.3	22	5.9	85	5.8
2-3	2	0.3	1	0.6	7	2.3	2	0.5	12	0.8
Total	606	100.0	175	100.0	309	100.0	372	100.0	1462	100.0

TABLE 6.30

REPORTED CONTACTS* FOR VOCATIONAL REHABILITATION SERVICES, BY NUMBER OF AGENCIES, FOR EACH INITIAL PRIMARY DIAGNOSIS GROUP, DENIALS AND ALLOWANCES

Mamber of					Den	Denials									Allowances	inces				
Agencies	Circ	o c	Resp	sp	Nerv	2	Mus	Musc	Total	3,1	Circ	0	Resp	d;	Nerv	A.	Musc	0	Total	7
	No.	88	No •	PS	No.	£2	No.	88	No. %	85	No.	₽2	No. %		No.	Pé	No.	PS	No.	82
None	188	72.6	55	83.4	89	59.7	145	57.8	456	72.6 55 83.4 68 59.7 145 57.8 456 66.1 302 84.8 96 85.7 154 78.2 87 70.2 639	302	84.8	8	85.7	154	78.2	87	70.2	639	81.0
н	29	67 25.9	₩	12.1	43	37.7	26	38.6	215	8 12.1 43 37.7 97 38.6 215 31.2 52 14.6 15 13.4 38 19.3 36 29.0 141	52	14.6	15	13.4	38	19.3	36	29.0	141	17.9
2-3	7	1.5	6	4.5	m	2.6	6	3.6	19	4 1.5 3 4.5 3 2.6 9 3.6 19 2.7	α	2 0.6 1 0.9 5 2.5 1 0.8 9 1.1	H	6.0	5	2.5	۲	0.8	6	1,1
Total	259 :	100.0	. 99	100.00	114	100.0	251 1	0.00	: 069	259 100.0 66 100.0 114 100.0 251 100.0 690 100.0 356 100.0 112 100.0 197 100.0 124 100.0 789 100.0	356 1	0.00	112 1	0.00	197 1	0.00	124 1	0.00	789 1	0.00

,					Coml	Combined				
Agencies	Ci	Circ	Re	Resp	Nerv	rv	Mu	Musc	Total	7.
	No •	₽€	No.	100	No.	BE	No.	₽Q	No.	BE
None	7490	19.7 151	151	84.9 222	222	71.4 232	232	61.8 1095 74.0	1095	74.0
7	119	19.3	23	12.9	81	26.0 133	133	35.5 356	356	24.1
2-3	9	1.0	7	2,2	₩	2.6	2.6 10		2.7 28	1.9
Total	615	615 100.0 178 100.0 311 100.0 375 100.0 1479 100.0	178	100.0	311	100.0	375	100.0	1479	100.0

*Agency contacts include individual-initiated and agency-initiated invuiries to, as well as services received by, a vocational rehabilitation-type agency.



Appendix A SUPPLEMENTARY TABLES



TABLE A 2.1

AGE AT ONSET OF DISEASE BY INITIAL PRIMARY DIAGNOSIS DENIALS AND ALLOWANCES

	Total	%	4.8	3.5	9.4	9.2	18.2	32.6	27.1	100.0	
	To	No.	40	29	38	9/	151	270	225	829	53.9
	Musc.	%	7.7	8,5	9.2	8.5	15.4	27.6	23.1	130 100.0	
	Mu	No.	10	11	12	11	20	36	30		51.5
ances	Nerv.	%	12.0	4.8	6.7	11.1	18,3	27.9	19,2	100.0	
Allowances	Ne	No.	25	10	14	23	38	58	40	208	51.0
	Resp.	%	2.6	1,7	2.6	8.7	25.2	29.6	29.6	115 100.0	
	Res	No.	ю	2	3	10	29	34	34		55.0
	٠,	%	0.5	1.6	2.4	8.5	17.0	37.8	32.2	376 100.0	
	Circ.	No.	2	9	6	32	99	142	121	376 1	56.1
	al	%	5.0	5.6	11.7	13.9	19.9	27.2	16.7	735 100.C	1
	Total	No.	37	41	98	16.2	146	200	123	735]	51.3
	ن	%	7.1	7.1	14.3	17.3	16.5	24.2	13,5	266 100.0	
	Musc.	No.	19	19	38	94	474	49	36	266]	49.8
1.8		%	9.6	9.6	14.4	12.0	20.0	23.2	11.2	100.0	
Denials	Nerv.	No.	12	12	18	1.5	25	29	14	125	48.9
	-d	%	1.4	1.4	7.2	11.6	17.4	40.7	20.3	69 100.0	
	Resp.	No.	-	7	5	œ	12	28	14	69	54.2
		%	1.8	3,3	9.1	12.0	23.6	28.7	21.5	275 100.0	
	Circ.	No.	5	6	25	33	65	79	59	275	53.2
	Age at	Disease	< 35	35-39	40-44	45-49	50-54	55-59	79-09	Total	Average

TABLE A 2.1 (cont.)

AGE AT ONSET OF DISEASE BY INITIAL PRIMARY DIAGNOSIS DENIALS AND ALLOWANCES

					Combined	ped				
Age at Onset of	C1:	Circ.	Re	Resp.	Ne.	Nerv.	Mu	Musc.	To	Total
Disease	No,	%	No.	%	No.	%	No.	%	No.	%
< 35	7	1.1	7	2.2	37	11.1	29	7.3	77	4.9
35-39	15	2.3	3	1.6	22	9.9	30	7.6	70	4.5
40-44	34	5.2	8	4.3	32	9.6	20	12.6	124	7.9
45-49	65	10.0	18	8.6	38	11.4	57	14.4	178	11.4
50-54	129	19.8	41	22.3	63	18.9	99	16.2	297	19.0
55-59	221	34.0	62	33.7	87	26.2	100	25.2	470	30.1
60-64	180	27.6	48	26.1			99	16.7	348	22.2
Total	651	100.0	184	184 100.0	333	100.0	396	100.0	1564	100.0
Average:	54.9		54.7		50.2		50.3		52.7	

TABLE A 2.2

STUDY RESULTS BY SELECTION ORDER, SELECTED STUDY SAMPLE, DENIALS AND ALLOWANCES

					Ŋ	Selection Order	n Orde	ង				
Study		Denials	als			Allowances	nces			Combined	pe	
Rechilte	Initial	ial	Later	er	Initial	ial	Later	er	Initial	ial	Later	er
	No.	PC	No.	BR	No.	BQ	No.	pg/	No.	B	No.	B
Interview & PE	342	75.5 211	211	74.8 323	323	73.9 267	267	70.3 665	699	73.7 478	478	72.2
Interview Only	%	0.61	51	18.1 108	108	24.1	92	24.2 194	194	21.5 143	143	21.6
Refusal	25	5.5	20	7.1	18	4.0	21	5.5 43	43	4.8	T+ ₁	6.2
Total	453	100.0 282	282	100.00	644	100.0 380	380	100.0 902	905	100.0 662	662	100.0



Appendix B

SURVEY FORMS:

- 1. Interview Schedule

- General History
 General Physical Examination
 Muscle Strength and Joint Range of Motion







				RONIC DISEA						INT,	/SCH
				OHNS HOPKIN F HYGIENE A						ĺ	rev
				ERVIEW SCH							
						Stı	ady No.				
								L			
Name	:					Ph	one:				
								No Pho	ne		
							arest				
						-	Phone:				
NEW	address:			*		Man	me of Party: _				- 1
	L'-										
Inte	rview Time:		m. to	m.	Tota		1	ırs.		m:	in.
		(began)	- m. to -(ended)				-		_	
				CONTACT	RECORD						
	Day ∩f		Hour			Rema					
No.	week	Date	of Day	Complete	d, N.A	.H., R	efusal,	Other	(SPEC	IFY)	
											\dashv
											-
□ In	terview d other	with R person.	Specify	, name:							
Tn	temrieu	201012									
wi wi	th other	person	. Relati	onship:							_
IF I	ECEASED,										
obta	in death	Da	te	Place _	(Cit	у)			(Stat	ce)	-
			ource:		,						
			ALCC.								
Edit	ed:		Date		In	terview	ver				

SECTION I. HOUSEHOLD COMPOSITION

- First, we would like to get an idea of who lives here, their ages, and so forth.
 - a. How many people are there altogether in your household including any roomers or anyone temporarily away such as in the hospital?

FOR EACH MEMBER OF HOUSEHOLD OBTAIN RELATIONSHIP TO RESPONDENT, SEX, AGE, AND PRESENT STATUS. (What does he/she do? E.g., work, unemployed, keeping house, going to school, retired, disabled, presently ill).

	(b)	(c)	(d)	(e)
	Relationship to Respondent	Sex	Age	Present Status
1	RESPONDENT	М		
2				
3				
14				
5				
6				
7				
8				
9				
10				

(If more, list on back of page)

2. (IF MORE THAN ONE ADULT (≥18) LISTED ABOVE, ASK)

Who is the head of the household? (CIRCLE NUMBER IN ABOVE TABLE)

3.	(INTERVIEWER: CHECK TYPE OF HOUSING)	
	(1) Single house (2) Semi-detached (2 units only) (3) Row House (3 or more units attached)	☐ (4) Apartment ☐ (5) Boarding house ☐ (6) Hotel apartment ☐ (7) Other (specify):

4.	How long have in this neigh	you lived borhood (area)?	No. of yrs (or since	yr.)		
5•	How long have at this prese	you lived nt address?	No. of yrs (or since	yr.)		
6.		s do you have in yo on room, e.g. livi	our household?	(Count as one	room	
	(Circle nu	mber) 1 2 3 4	5 6 7 8+			
SEC	TION II. DISA	BILITY AND ILLNESS	RECORD			
Now	, we would like	e to ask you a few	questions abou	t your health.		
7.		ny particular heal- roblems at present		(1) No [(2	2) Yes	
	(IF YES)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	a. What are they? (FOR EACH ONE, ASK) b. How long have you had this condition? (Specify wks., mos., yrs.) c. Does this condition interfere with your ability to work in any way? (IF YES TO QUESTION "c" ASK) d. How long has this condition interfered with your work? (Specify wks., mos., yrs.) e. In what way does this condition limit your work activity?					
·		(a)		(b)	(c)
		Condition		Duration	Inte No	rfere Yes
1						
2		- 47.0				
3						
4						
	(d)		(e)			
	Duration	Wo	ork activity li	mitation(s)		
1						
2						
3						
1						

8. Which one of the following best describes your present situation?

SHOW CARD A

(Check one)
(1) Confined in bed most of the time (2) Confined to a chair (including wheel chair) most of the time (3) Confined indoors but able to move around most of the time
Able to go outdoors but need help of person, appliance (e.g., brace, truss), or other mechanical device (e.g., cane, crutch)
PLEASE SPECIFY:
(4) a. Need help of person only (5) b. Required to wear an appliance only (6) c. Need to use a mechanical device only (7) d. Need both help of person and appliance (and/or mechanical device)
(8) Able to go outdoors without help
(IF OTHER THAN ITEM (8) ABOVE, ASK)
a. How long have you been limited in activity this way? (wks., mos., yrs
(wks., mos., yrs
(wks., mos., yrs Does any illness or health condition keep you from: (Check if apply)
(wks., mos., yrs
Does any illness or health condition keep you from: (Check if apply) (a) Dressing and undressing yourself? (b) Getting in and out of a chair? (c) Bathing, shaving, brushing your teeth, or combing your hair? (d) Performing toilet functions (on and off toilet, etc.)? (e) Feeding yourself? (f) Walking up stairs? (g) Moving about? (h) Traveling around in a bus, street car, or automobile? (i) Doing ordinary chores around the house? (j) Speaking?

9.

10.		F YES TO QUESTION 7 or IF ANY ILLNESS OR HEALTH CONDITION CHECKED N QUESTION 9) N.A. Does any member of the household help you in any way because of your health? (E.g., preparing special food, giving shots)				
		or jour nearons (1.8.)	, , , , , , , , , , , , , , , , , , , ,	,		
			(1) No	(2) Yes		
	1	(IF YES)		c. How often		
		a. Who? (relationship)	b. In what way?	is this done?		
		1				
		2				
	Ī	3				
	В.	Do any relatives or frie	nds come over to help you or ld chores, shopping, getting			
			(1) No	(2) Yes		
		(IF YES)				
		a. Who? (relationship)	b. In what way?	c. How often is this done?		
		1				
		2				
		3				
	C.	Does anyone else come ov worker, or homemaker?	er to help you such as a hou	sekeeper, day		
			[] (1) No	(2) Yes		
		(IF YES)				
		a. Who?	b. In what way?	c. How often is this done?		
		1	, , , , , , , , , , , , , , , , , , ,			
		-				

of		list of illnesses. I would illnesses now. I will go do DTE: IF NOT NOW, ASK: Have	wn th	e list	; with	n you from the begin-
(Check	if appl	SHOW CA	RD B			
Now Ev	er		Now	Ever		
	(11) (12) (13)	Asthma Hay Fever Tuberculosis Chronic Bronchitis Repeated attacks of sinus trouble Rheumatic fever Hardening of the arteries High blood pressure Heart trouble Stroke Trouble with varicose veins Hemor hoids or piles Tumor, cyst or growth Chronic gallbladder or liver trouble			(16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27)	Stomach ulcer Any other chronic stomach trouble Kidney stones or chronic kidney trouble Arthritis or rheumatism Mental Illness Diabetes Thyroid trouble or goiter Any allergy Epilepsy Chronic nervous trouble Cancer Chronic skin trouble Hernia or rupture Prostate trouble
(TE ONE	OR MOR	E ILLNESSES)			None	checked (SKIP TO Q. 12)
a. Abou	it how	many days in the past 12 more) condition(s)?		ave yo		ayed in bed because of
		some other health problems t	hat p	eople	ofte	n have. Do you have
(Check	if appl	SHOW CAR	D C			
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)	Deafne Seriou Cleft Any sp Missin Cerebr Paraly Repeat Club f Perman finger Any co	ss or serious trouble with he strouble with seeing, even palate each defect. g fingers, hand, or arm tal palsy sis of any kind ed trouble with back or spiroot ent stiffness or any deforms, arm, or back. Indition present since birth.	when oes, e ty of	wearin	or le	g•

. H	ave you ever used tobacco in any form?
	(2) Yes (1) No (IF NO, SKIP TO QUESTION 14)
	a. Have you ever smoked a pipe or cigars?
	☐ (2) Yes ☐ (1) No
	b. Have you ever smoked cigarettes?
	(2) Yes (1) No (IF NO, SKIP TO QUESTION 14)
	(IF YES) c. Do you smoke cigarettes now?
	(2) Yes (1) No (IF NO, SKIP TO TTEM "f" BELOW
_	(IF NOW SMOKES)
	d. How many years have you been smoking cigarettes (yrs.) e. How many do you smoke a day on the average?
	(Check one)
	(1) Once in a while, NOT daily (2) Less than 1/2 pack a day (<10) (3) 1/2 up to 1 pack a day (10-19) (4) 1 pack up to 2 packs a day (20-39) (5) 2 or more packs a day (≥40)
	(IF NOT SMOKE NOW)
	f. How many years did you smoke cigarettes? (yrs.) g. When did you stop smoking cigarettes? (yr. only) h. How many cigarettes did you regularly smoke each day at the time you stopped smoking?
	(Check one)
	(0) Never smoked more than 5 or 10 packs altogether
	(1) Once in a while, NOT daily (2) Less than 1/2 pack a day (<10) (3) 1/2 up to 1 pack a day (10-19) (4) 1 pack up to 2 packs a day (20-39) (5) 2 or more packs a day (≥40)

SECTION III. MEDICAL AND HEALTH SERVICES

We've been talking a lot about your health. Now we would like to know about the medical care and services you have been receiving.

- 14. In the past 5 years, have you stayed as long as one night in a medical institution such as a hospital or sanitarium?
 - (1) No (2) Yes

(IF YES)

STARTING WITH THE MOST RECENT TIME YOU WERE IN A MEDICAL INSTITUTION:

- a. What medical institution (hospital) were you in?

- a. what medical institution (hospital) were yet.
 b. Where was it located?
 c. When were you admitted? (mo., yr.)
 d. Why did you go to the medical institution?
 e. Did you have any surgery or operation?
 f. How many nights did you spend there?

(a)	(b)	(c)
Name	Location City & State	Date Admitted
1		
2		
3		
λ μ		

(d)	(e		(f)
Condition	Opera No	tion Yes	No. of Nights
1			
2			
3			
4			

15.	In the past 5 yea	rs, have you ever	been a	patient in a nur	sing hom	ie?		
		(2) Yes						
		(IF YES) Starting	g with :	your most recent	stay:			
		a. What nursing						
		c. In what year	did y	ing home located? ou enter this nur		e?		
			e you	in this nursing h	ome?			
		(Specify day	rs, wks	., mos.)				
	(a)	(b)	(c)	(d)		(e)		
	Name of Home	Address	Year	Condition	D	uration		
1			-					
2								
3								
16.		have you visited medical services?	a phys	ician or osteopat	h's offi	ce or		
	(1) No (<u>1</u>	F NO, SEE ITEM "e"	BELOW)				
	[] (2) Yes (]	F YES, FILL IN IN	FORMATIO	ON BELOW)				
	(a)	(b)		(c)		(d)		
	Name of Doctor or Clinic	Address		Reason		No. of Visits		
1								
2								
3								
	(<u>IF NO</u>)							
	e. When was the clinic? What located? Res	last time you visit was the name of the son?	ited a t	physician's offic tor or clinic? W	e or wen	t to a he (this)		
	(e)	(f)		(g)	(h)		
	Date	Name	-	Address	Reas	on		

18.	connected serv	ear, have you visited any other person or office for health- rices such as a physio-therapist (a person who uses heat, e, exercises to help people), an occupational therapist (one and crafts as a means of helping a person recuperate), or a worker?				
	[] (1) No					
	[] (2) Yes	(IF YES,	ASK FOR EACH)			
		a. What is that person's name? b. What is he (she)? (Type: P.T., O.T., S.W., oth.) c. What is the name of this agency? Where is it located? d. Why did you go to this person (or office)? e. How many times have you been there this past year?				
	(a)	(b)	(c)	(d)	(e)	
	Name	Type	Agency and Address	Reason	No. of Visits	
1						
2						

17. In the past year, have you been visited at home by a physician or osteopath?

(c)

Reason

(d) No. of Visits

(2) Yes (IF YES, FILL IN INFORMATION BELOW)

(b)

Address

(1) No

(a)

Name of Doctor

2

- 19. In the past year, have you been visited at home by a physio-therapist, an occupational therapist, medical social worker, or any other health-connected person?
 - [](1) No
 - (2) Yes (IF YES, ASK FOR EACH FILL IN BELOW)

(a)	(b)	(c)	(a)	(e)
Name	Туре	Agency and Address	Reason	No. of Visits
1				
2				
3				

- 20. In the past year, have you received any nursing care at home such as by a public health nurse, visiting nurse, private nurse, or a trained practical nurse?
 - (1) No
 - (2) Yes (IF YES, ASK FOR EACH FILL IN BELOW)

(a)	(b)	(c)	(d)	(e)
Name	Туре	Agency and Address	Reason	No. of Visits
1				
2				
3				

SECTION IV. WORK AND EMPLOYMENT HISTORY

Now we would like to know something about the type of work you have done in your lifetime. We are interested in this since we want to find out if the kind of work people do affects their health in any way.

- 21. Are you working at the present time?
 - (1) No (SKIP TO QUESTION 23)
 - (2) Yes

22.	(IF	WORKING)
	a.	Are you in business for yourself or do you work for someone else?
		(1) Self-employed (2) Someone else
	b.	When did you begin this job (start this business)? (mo., yr.)
	С.	How did you get this job? Did you go through an employment agency, read about it in the want ads, hear about it from a friend, or what?
		(Check one)
		(0) Public employment agency (5) Newspaper ad (6) Relative or friend (7) Rehabilitation Center (8) Other (specify) (4) Started up own business (9) Don't remember
	2	What kind of work are you doing? (OBTAIN A JOB DESCRIPTION)
	d.	what kind of work are you doing! (OBIAIN A JOB DESCRIPTION)
	е.	Where do you work? (LIST NAME OF COMPANY OR BUSINESS LOCATION)
	f.	About how many hours do you work a week?
		no. hrs./wk.
	g.	How much do you usually earn a week before any deductions? (IF SELF-EMPLOYED, ASK: About how much would a week's business earnings amount to on the average?)
		\$ per week
	h.	Do you work under any special conditions to make the work easier for you such as extra assistance or rest periods or irregular hours?
		☐(1) No ☐(2) Yes
		(<u>IF YES</u>) i. What conditions are these?
		1
		2

23.	(IF	(IF NOT WORKING)							
	a.	How long has it	been since you last worked	? (wks., mos., yrs.)					
	ъ.	Are you presentl	y not working because of a	ickness, disability, or what?					
		(<u>Check one</u>)	(1) Voluntary retirement (2) Forced retirement (3) Sickness (4) Disability (5) Laid off (6) Other (specify):	**************************************					
	(IF	OTHER THAN VOLUN	TARY RETIREMENT, ASK)						
	с.	(IF FORCED RETIR	EMENT, ASK)						
		Do you plan to g	o back to work? (1)	No (SKIP TO QUESTION 24)					
			□ (2)	Yes (CONTINUE BELOW)					
-	d.	How soon do you back to work? (go						
	e.	. Since your last job have you looked for other work?							
	(1) No (2) Yes (<u>SKIP TO ITEM "g"</u>)								
_		NO)							
f. Why haven't you looked for work? (Specify)									
	(IF	YES)							
g. What kind of work did you find (the first time)? (IF "NOTHING" OR "NONE", ASK: What kind of work did you look for h. How did you find out about this work? Was this from some agency, relative, friend, or some other source? (IF AGENCY, LIST NAME & A i. What was your reason for not doing that work?									
		(g)	(h)	(i)					
	K	ind of work	Source of info.	Reason not work					
1									

	IO on more mo	(ASK EVERYONE) We would like to know what kind of jobs you've had over the past 10 years, including any part time jobs. Starting with your most recent (before your present) job:						
	TO OI MOTE VE	ars. I	Ask questi	ons abo	ut last job held ONLY.			
a. What kind of work were you doing? (Job description and title) b. Were you self-employed? c. How did you get that job? (Specify: agency, ads, friend, etc.) d. What was the name of the company (or business)? e. Where was this company or place located? f. What year did you begin that job? g. What year did you leave this job? h. What was your reason for leaving?								
(a)		(h)			(c)			
	rowls	Self		Horr	obtain job			
KING OF V	VOIA	1 1		IIOW	obtain job			
(a)	(e)		(f)	(g)	(h)			
Name of Company			Began	Left	Reason for Leaving			
more? Why was	this? (Specif;	y dates	rou ever b (mo./yr.	een out	of work for a month or eason for each.) [(0) None			
	f. What yee g. What yee h. What was (a) Kind of v Company	f. What year did you begg. What year did you lee h. What was your reason (ASK SAME (a) Kind of work (d) (e) Name of Addres Company (City-Sta	f. What year did you begin thang. What year did you leave thin h. What was your reason for lead (ASK SAME QUEST) (a) (b) Self Kind of work Y N (d) (e) Name of Address Company (city-State) 1. During this 10 year period, have your more? Why was this? (Specify dates)	f. What year did you begin that job? g. What year did you leave this job? h. What was your reason for leaving? (ASK SAME QUESTIONS FOR A (a) (b) Self Kind of work Y N Name of Address Company (City-State) Began 1. During this 10 year period, have you ever b more? Why was this? (Specify dates (mo./yr.	f. What year did you begin that job? g. What year did you leave this job? h. What was your reason for leaving? (ASK SAME QUESTIONS FOR ALL OTHE (a) (b) Self Kind of work Y N How (d) Name of City-State) (City-State) Gegan Left 1. During this 10 year period, have you ever been out more? Why was this? (Specify dates (mo./yr.) and reserved.			

Dates: _____ Reason: ____

SECTION V. ECONOMIC SITUATION

25. Can you tell me whether your income during the past 12 months came from any of the following sources?

SHOW CARD D

	(Check as many as apply)
	a. Own wages or salary? b. Your own business? c. Interest, stock dividends, insurance annuities? d. Rent from house or property? e. Social Security old age benefits? f. Social Security disability benefits? g. Private insurance disability benefits? h. Veteran's benefits? i. Workman's compensation? j. Unemployment insurance? k. Public assistance? l. An employer or union pension plan? m. Cash assistance from a private welfare agency? n. Cash contributions from someone such as your children or other relatives? o. Any other source?
	(specify)
	(IF MORE THAN ONE SOURCE GIVEN) A. Which one of these was your main source of income? (WRITE IN LETTER CORRESPONDING TO MAIN SOURCE)
	(IF NO SOURCE GIVEN)
	B. How do you manage to support yourself?
% .	For our study we need to know roughly what are the incomes of families we are studying. We want to know if income is in anyway connected with health and the care people get. Just tell me approximately the total cash income you (your family) received during the last year. (Include income from all sources such as wages, salaries, rents from property, pensions, help from relatives, etc.)
	(1) Under \$500

27.	Do you have any savings or investmen	nts in
	(Check if applies)	
	a. A checking account at a bank? b. A sayings account at a bank or c. A credit union? d. Stocks or company bonds? e. Government savings bonds or of f. Real estate (Own house only g. Anything else?	cher bonds?
	☐ None checked	(specify)
28.	other person or agency though the	this sort? During the past 12 months,
	(Check if "yes")	(IF YES, ASK:) Who helped you? (List relationship only)
	a. Food?	
	b. Rent?	
	c. Medical or dental care?	
	d. Clothing?	
	e. Anything else? What? (specify	7)
	None	
	WHOM WOULD YOU TURN TO FIRST:	
29. 30. 31.	About a problem concerning your head About a financial problem? About a personal problem?	th (LIST BELOW)
	(FOR EACH, ASK) a. Where does this I	person live? (Where is this agency located?)
	Person (Specify relationship) (If agency, list)	a. Location (Check one for each question)
29.		(1) Own home (3) Balto. area (2) Neighborhood (4) Outside area
30.		(1) Own home (3) Balto. area (2) Neighborhood (4) Outside area
31.		(1) Own home (3) Balto. area (2) Neighborhood (4) Outside area

brothers, sisters, parents? (Or any close friend	181)							
(1) No (2) Yes								
(IF YES)								
a. Whom do you help? b. What sort of help do you give?								
(ASK ONLY IF HOUSE DWELLING UNIT) (NOTE: If room and ask	ning-type hous							
Do you own your own home or do you rent? (IF TRA:		as Owner or F ck here: 🗌 Th						
(3) Other arrangement (specify):								
(IF OWN)								
a. How much is the mortgage? \$		o mortgage						
		o mortgage						
a. How much is the mortgage? \$								
a. How much is the mortgage? \$ (IF RENT) b. How much is your monthly rent? \$ c. Do you own most of the furniture or did								
a. How much is the mortgage? \$ (IF RENT) b. How much is your monthly rent? \$ c. Do you own most of the furniture or did you rent the place furnished?	No	☐ (2) Rent						

34.	(ASK ONLY IF APARTMENT DWELLING UNIT)
	a. How much is your monthly rent? \$
	b. Do you own most of the furniture of did you rent the place furnished?
35 •	(ASK EVERYONE)
	Do you own an automobile? (1) No (2) Yes
	(IF YES) a. How much are your monthly payments? \$ _ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
36.	If you sold everything you own, and withdrew all your savings, how much do you think you'd have? Just give me your best guess.
	\$ Don't know
SECT	ION VI. BACKGROUND INFORMATION
Now	we would like to know a few things about your background.
37.	a. Where were you born?(City) (State)
	(NOTE: IF ON A FARM, ASK: What was the name of the nearest community
	b. (IF NATIVE BORN, ASK) Where were your parents born?
	Father:
	Mother:
	(IF EITHER OR BOTH NATIVE BORN, ASK)
	c. Where were your father's (mother's) parents born?
	Father's parents:
	Mother's parents:
	d. (IF FOREIGN BORN, ASK) How old were you when you came to this country?age
	e. Where did you live during most of your childhood years before you were 18 years old?
	(City) (State) Same as in item "a"
38.	What is your marital status at the present time?
	(Check one) (1) Single (2) Married (3) Widowed (4) Divorced (5) Separated

39.	What is your relig	gious pr	reference?
	(<u>Check one</u>)	(2) (3) (4)	Catholic Protestant Jewish Other (Specify) None
	(IF NONE)		
	a. In what rel	Ligious	tradition were you brought up?
	(Specify) _		
I¹d	like you to tell me	e about	some of the things you do.
40.	Who comes to visit relatives, or some		ost often your neighbors, your children, other se?
	(Check one ONLY)		No one visits me Neighbors Children Other relatives Someone else (Who?)
	(IF OTHER THAN NO	ONE, A	(3K) a. How often do they (does he) visit?
	(<u>Check one</u>)	(2) (3) (4)	Once a day or more A few times a week Once a week Less than once a week Only under special circumstances
41.	Whom do you visit relatives, or some		ften your neighbors, your children, other se?
	(Check one ONLY)		Visit no one Neighbors Children Other relatives Someone else (Who?)
	(IF OTHER THAN NO	ONE, A	$\overline{ ext{SK}})$ a. How often do you visit?
	(Check one)	(2)	Once a day or more A few times a week Once a week Less than once a week Only under special circumstances

If you had your choice, would you prefer to stay here or move elsewhere?
(1) Stay (2) Move
a. Why?
(IF MOVE, ASK) b. Where would you like to move?
If health and financial matters were no problem, would you prefer to stay here or move elsewhere?
☐ (1) Stay ☐ (2) Move
a. Why?
(<u>IF MOVE, ASK</u>) b. Where would you like to move? Same as in Q. 42b
Do you have any hobbies or interests that require physical activity such as woodworking, gardening, and so on?
[(1) No [(2) Yes
(IF YES) a. What are they? (LIST) b. What do you do?
1
2

SECTION VII. SERVICES AND AGENCIES

In many communities there are agencies which help people learn new trades who no longer are able to do their regular work. (E.g., V.A., state, private, or union agency, or sheltered workshop)

45. Have you ever received any guidance or training from such an agency - or inquired about such services for yourself?

> (1) No (SKIP TO ITEM "1" ON NEXT PAGE) □ (2) Yes

/ TO STOR	A CITE	TIOT	TO A COTT	A CITATION	CITE A TOTAL TOTAL	* * ******	140 cm	Dramm'
(TF YES:	ASK	#OR	EACH	ACHINCY	STARTING	WITTH	MOST	BECENT

- a. What agency was that?
- what did you go to (inquire at) that agency?
 when did you first go to (inquire at) that agency? (mo./yr.)
- d. Did you receive any training?

 (IF NO) e. What was the outcome?

(IF TRAINING)

- f. What kind of training did (are) you receive(ing)?
- g. Did you complete (do you plan to complete) the program? h. (IF NO) Why not?

(a)	(b)	(c)	(d)
Name	Reason	Date	TRNG. No Yes
1			
2			
3			

(IF NO) (e)	(IF TRAINING) (f)
Outcome	Kind of Training
1	
2	
3	

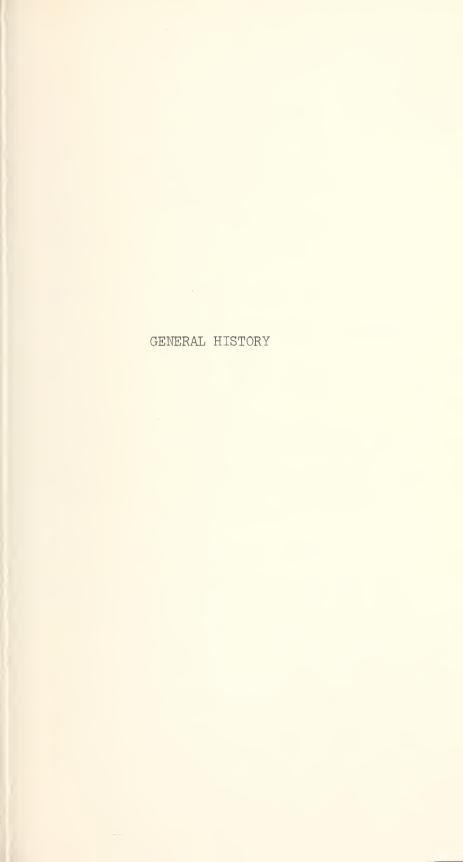
	(g)	(h)
	(g) FINISH Yes No		
	Yes	No	IF NO: Reason
1			
2			
3			

45.	(CONTINUED)				
	(<u>IF NO</u>) i. Has any agency ever contacted you about such guidance or training? ☐ (1) No ☐ (2) Yes				
	(IF YES: ASK FOR EACH AG	(IF YES: ASK FOR EACH AGENCY)			
	j. What agency was that? k. Why were you contacte l. When was that? (Spec m. What was the outcome?	re you contacted? us that? (Specify mo. and yr.)			
	(j) (k		(1)	(m)	
	Name Rea	son	Date	Outcome	
1					
2					
46.	· (ASK EVERYONE)				
	Have you ever received any other services from a public or private agency such as for physical rehabilitation (training in the use of an appliance), hearing or speech training, and so on? \Box (1) No \Box (2) Yes				
	(IF YES: ASK FOR EACH AGENCY STARTING WITH MOST RECENT)				
	a. What agency is this? b. Why did you go to this agency? c. When did you first go to this agency? (mo., yr.) d. When did you stop? (mo., yr.) Or are you still going? e. Was the service you received helpful to you? (IF YES) f. In what way? (IF NO) g. Why not?				
	(a)	(a) (b)			
Name		Reason Visit			
1					
2					
	(c) (d) (e)				
	Date Aid Start Stop Yes No				
1					
2					
	1				

Finally, I have one last question to ask you.
47. Do you have a physician whom you would call your regular doctor?
(IF YES) a. What is his name and address?
Name
Address
Telephone:
In order to make this study as thorough as possible we are planning to invite a sample of the people we interview to come into a special clinic to have a complete physical examination. You may be selected to participate in this part of our study.
(IF NOT CONFINED INDOORS) In case you are selected, what would be the most convenient time for you to come in to our special clinic? What would be your second choice?
I WISH TO ADD THAT OUR SPECIAL CLINIC WILL BE OPEN DURING WEEKDAYS ONLY.
(IF CONFINED INDOORS) In case you are selected, we would like to have a physician visit you in your home. This could be arranged at your convenience. What would be the best time for such a visit? What would be your second choice?
(IF PVT. M.D.) We would obtain your physician's permission before setting up an appointment, should your name be selected.
48. (Check one) Clinic O.K. Home O.K. Refuse exam
lst Choice (Day of wk.) (Morn. or after.?)
2nd Choice(Day of wk.) (Morn. of after.?)
(IF CLINIC OK) Would you have any problem No Yes, need transportation about transportation?
(IF WORKING) Would you have any problem getting time off from work? No Yes, need employer 0.K.
(IF YES) Contact:
(OTHER: specify)
T want you to know that this information will be handled confidentially.

THANK YOU.

PECI	TOW VIII. INTERVIEWER'S COMMENTS
49.	How cooperative was the respondent?
	(h) Very cooperative (3) Somewhat cooperative (2) Uncooperative (1) Very uncooperative
50.	Are there any parts of the interview which you would question? (1) No
51.	Was there anyone besides the respondent present during any part of the interview? (1) No (2) Yes (IF YES)
	a. Who? b. For what part of the interview was there someone besides the respondent present?
	(1) Entire interview (2) More than half, not entire (Check one) (3) Less than half, more than 10 minutes (4) 10 minutes or less (5) Unable to judge, others in and out during interview
52.	(IF INTERVIEW CONDUCTED, SOLELY OR IN PART, WITH OTHER PERSON, STATE REASON: e.g., R too sick, unable to communicate due to, etc.)
53•	(IF TRANSPORTATION NEEDED TO CLINIC OR HOUSE VISIT) Is this a difficult address to locate? No Yes
	(<u>IF YES</u>) Indicate <u>best</u> direction to locate (use map diagram on back, if necessary).
	Twicouriestown





CHRONIC DISEASE SURVEY

Health Examination

GENERAL HISTORY

Hosp. History No.	Study No.
Date of Examination	Interview Time
Name (Last)	(First and Middle)
1. What is your	2. Your age at your
birthdate? (mo., day, yr.) NOW, WE WOULD LIKE TO ASK YOU A FEW QUESTI	last birthday?
	any headaches? Yes 2 No 1 ? 0 it? (wks., mos., yrs.) ? 0 cur? [(2) Every few days [(1) Less often
	r you? (2) Quite a bit (1) Just a little

Ц.	In the past few years have you had any nosebleed? Yes 2 No 1 ? 0 (IF YES) a. How long have you had it? (wks., mos., yrs.) ? 0 b. How often did they occur? [(2) Every few days [(1) Less often c. How much did it bother you? [(2) Quite a bit [(1) Just a little
5•	At any time over the past few years, have you ever noticed ringing in your ears or have you been bothered by other funny noises in your ears? Yes 2 No 1 ? 0 (IF YES) a. How long have you had it? (wks., mos., yrs.) ? 0 b. How often did they occur? [(2) Every few days [(1) Less often c. How much did it bother you? [(2) Quite a bit [(1) Just a little
6.	In the past few years have you had any spells of dizziness? Yes 2 No 1 ? 0 (IF YES) a. How long have you had it?

7.		a. How long have you had it? (wks., mos., yrs.) ? O b. How often did it occur? [(2) Every few days [(1) Less often c. How much did it bother you? [(2) Quite a bit [(1) Just a little]
8.		ver been bothered by short- eath when climbing stairs? Yes 2 No 1 ? 0
		b. How long have you had it? (wks., mos., yrs.) ? 0
	(11 1135)	c. How often? (2) Almost every time (1) Less often
		d. How much? (2) Quite a bit (1) Just a little
		e. How many flights of stairs can you climb without stopping? flights ? 00
9.		ver been bothered by shortness when walking on level ground? Yes 2 No 1 ? 0
	(<u>IF YES</u>)	a. Does it bother you now? Yes 2 No 1 ? 0
	(<u>IF YES</u>)	b. How long have you had it? (wks., mos., yrs.) ? 0
		c. How often?
		d. How much? (2) Quite a bit (1) Just a little
		e. How many blocks do you have to walk before you become short of breath? blocks ? 00

10.	breath when do: (IF YES) a. (IF YES) b.	Deen bothered by shortnessing physical work or exert Does it bother you now? How long have you had it How often? How much?	cising?	every time	(1) Less	
11.	when you were recommended (IF YES) a. (IF YES) b.	peen bothered by shortnes not doing physical work of Does it bother you now? How long have you had it How often? How much?	r exercisin <mark>g?</mark>	Yes 2 (wks., mo	(1) Less	
12.	when you are ex (IF YES) a. (IF YES) b.	been bothered by shortness cited or upset about som Does it bother you now? How long have you had it How often? How much?	ething?	every time	(1) Less	

13.	Have you ever waked up at night because you were short of breath? (IF YES) a. Within the past few years? (IF YES) b. How long have you had it? c. How often did it occur? [(2) Ever d. How much did it bother you? [(2)	
14.	 a. Do you usually cough first thing in the morning? b. Do you usually cough during the day or night? (IF YES TO EITHER QUESTION a or b) c. How long have you had it? d. Do you cough like this on most days for as much as three months each year? 	Yes 2 No 1 ? 0 Yes 2 No 1 ? 0 (wks., mos., yrs.) ? 0 Yes 2 No 1 ? 0
15.	Have you ever coughed up blood? (IF YES) a. Within the last five years?	Yes 2 No 1 ? 0 Yes 2 No 1 ? 0

16.	8.•		No 1 ? 0
	ъ.	In the past few years have you ever had any pain, discomfort, or trouble in or around your heart?	No 1 ? 0
		(IF YES TO EITHER QUESTION a or b, ASK QUESTIONS c to 1)	
		c. How long have you had it? (wks., mos.	, yrs.) ? 0
		d. How many of these episodes did you have?	pisodes ? 00
		e. How often did they occur? (2) Every few days](1) Less often
		f. How much did it bother you? (2) Quite a bit](1) Just a little
		g. Where did it bother you? (Check those that apply)	
		□ (1) Front □ (2) Back □ (1) Right side □ (2) Left side □ (1) Middle □ (2) Elsewhere (specify)	
		h. Did it usually (1) stay in one place? (2) move around, or go a	nywhere?
		1. How long did the pain usually last? (1) just a few seconds (2) just a few minutes (3) few minutes to an ho	? 0
		j. Did it usually come	or
		k. Did it usually come (1) When you were upset, (0) Didn't this make any	or ? 0
		1. Did you take any pills or medicine for it? Yes 2	No 1 ? 0
		(<u>IF YES</u>) m. Did you swallow them or put them under your tongue? ☐ (2) Swallow [(1) Under tongue

17.	like missing fast, or seem past few year heart do anyt	How much did it bother		[](1) Less often
18.	Have your ank	les ever been swollen at bed	time? Yes 2	No 1 ? 0
	(IF YES) a.	How long have you had it?	(wks., mo	os., yrs.) ? 0
	ъ.	Was this one or both ankles	Both 2	One 1 ? 0
	с.	Was the swelling gone by mo	orning? Yes 2	No 1 ? 0
	đ.	Has this occurred during the few months?	ne past Yes 2	No 1 ? O
19.	Have you ever on walking?	had pains or cramps in your	legs Yes 2	No 1 ? 0
	(IF YES) a.	How long have you had it?	(wks., mc	os., yrs.) ? 0
		Did it make you stop walking		No 1 ? 0
	с.	Has it occurred during the few months?	past Yes 2	No 1 ? 0

20.	Have you	ever	had swelling of	the joint	ts?		Yes	2	No	1	?	0
	(IF YES)	a.	How long have y	ou had it	t?		(wks.	, mo	s., yrs	.)	?	0
		b.	How often did i	t occur?	[] (2)	Every	few days		[](1)	Less	often	
		С.	How much did it you?	bother	[(2)	Quite	a bit		(1)	Just	a litt	le
		d.	Has it occurred the past few mon				Yes	2	No	1	?	0
21.	Have you	ever	had morning stift	fness.								
			en you get up?				Yes	2	No	1	?	0
	(<u>IF YES</u>)	a.	How long have yo	ou had it	t?		(wks.	, mo	s., yrs	•) .	?	0
		b.	How often did it	t occur?	(5)	Every	few days		<pre>(1)</pre>	Less	often	
		С.	How much did it you?	bother	<pre>(2)</pre>	Quite	a bit		<pre>[] (1)</pre>	Just	a litt	le
		d.	Has it occurred the past few mor				Yes	2	No	1	?	0
												_
22.	Have you	ever	had pain or tende	erness in	the jo	oints?	Yes	2	No	1	?	0
	(IF YES)	a.	How long have yo	ou had it	?		(wks.	, mo	s., yrs	.)	?	0
		ъ.	How often did it	occur?	<pre>(5)</pre>	Every	few days		<pre>(1)</pre>	Less	often	
		С.	How much did it you?	bother	<pre>(2)</pre>	Quite	a bit		(1)	Just	a litt	le
		d.	Has it occurred the past few mor				Yes	2	No	1	?	0
												_

23.	Has a doctor ever said you had gout?			Yes	ż	No	1	
				V-Vandana Variania		5-V		
24.	Have you ever had a nervous breakdown?			Yes	2	No	1	? 0
25.	Has a doctor ever said you had chorea or St. Vitus' Dance?			Yes	2	No	1	
26.	How good is your hearing?	Good	3	Fair	2	Poor	1	? 0

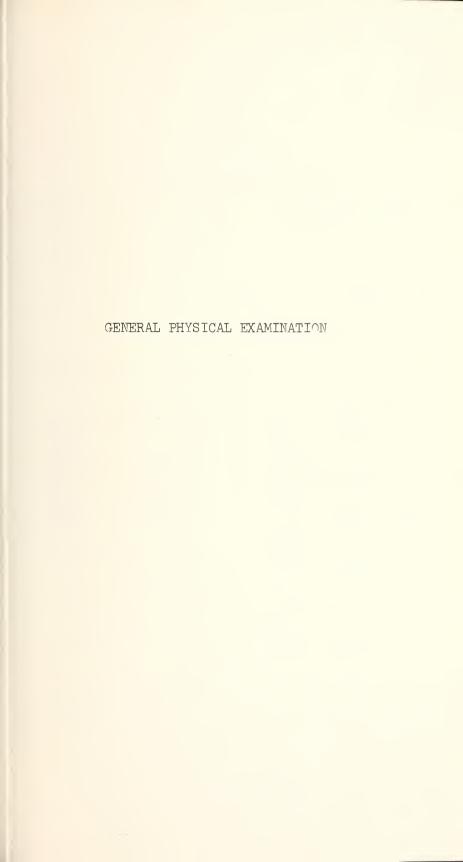
27.	a.	Do you often suffer from an upset stomach or indigestion?	Yes 2	No 1	? 0
		(IF YES) b. How long have you had it?			? 0
	С.	Does severe pain in the stomach often double you up?	Yes 2	No. 1	? 0
	d.	Do you suffer from frequent loose bowel movements?	Yes 2	No 1	? 0
		(<u>IF YES</u>) e. How long have you had it?			? 0
	ſ.	Have you ever had severe bloody diarrhea?	Yes 2	No 1	? 0
	g.	Do you constantly suffer from bad constipation?	Yes 2	No 1	? 0
		(IF YES) h. How long have you had it?			? 0
	i.	Have you ever had jaundice (yellow eyes and skin) ?	Yes 2	No 1	? 0

28.	a.	Have you had any recent increase in being thirsty (drink a lot of water) ?	Yes 2 No 1 ? 0
		(IF YES) b. How long have you had it?	? ')
	с.	Have you had any recent increase in urination (pass a lot of water) ?	Yes 2 No 1 ? ()
		(IF YES) d. How long have you had it?	? ()
	е.	Have you ever passed blood while urinating (passing water) ?	Yes 2 No 1 ? 0
	f.	Do you often have severe burning pain while you urinate?	Yes 2 No 1 ? 0
		(<u>IF YES</u>) g. How long have you had it?	? 0
	h.	Has a doctor ever said you had kidney or bladder disease?	Yes 2 No 1 ? 0
		(<u>IF YES</u>) i. How long ago?	(wks., mos., yrs.) ? 0

29.	Has any ill health affected the amount of work you do?	Yes 2 No 1	? 0
30.	What other illnesses and major health problems do you have?		None 0
31.	Have you lost any weight recently (without trying to) ?	Yes 2 No 1	? 0
	(IF YES) a. How much weight have you lost?	lbs.	? 00
	 b. Over what period of time have you lost this weight? (Specify: days, weeks, months) 		
32.	a. What is the most you ever weighed?	lbs.	7 000
	b. What is your usual weight?	lbs.	? 000
	c. What is your present weight?	lbs.	? 000

33.	Do you wear glasses? (IF YES) a. Do you wear them all the time? (IF NOT WEAR THEM ALL THE TIME) b. Do you wear them: (check those that apply) (1) for seeing at a distance? (2) for reading? (3) for watching TV? (4) at other times? When?	7 0
34.	Do you have a private physician? We would like to have your permission to review your health records of both physicians in their private practice and in hospitals. HAND RESPONDENT PERMISSION FOR RECORD REVIEW FORM FOR HIS SIGNATURE AND LISTING OF ADDRESS	No.
35•	Visual Acuity Screening Test (Snellen) R L Glasses: 20/ 20/ With Without	
36.	Height: inches 37. Weight:	lbs.
38.	Vitalor Done (IF DONE) Successful? Yes 2 No 1	
	Name of Interviewer	







CHRONIC ILLNESS SURVEY

General Physical Examination Check Li

Clinic: JH UH MG MG(U)	Study No.
Hosp. History No.	
Name (Last) (F	irst) (Middle)
	Phone
Time began examination: m.	
Sect. 1 GENERAL 1. Appearance (check those that apply) Healthy	Sect. 2 EYES (cont'd) 3. Pupils react to light? Regular Irregular 4. Pupils equal or unequal? Equal Unequal Right Larger 5. Opacities Absent Present IF PRESENT, describe:
Sect. 2 EYES 1. Arcus senilis? No Yes Right Left 2. Pupils regular or irregular? Regular Irregular	6. EOM Normal Abnormal IF ABNORMAL, specify:

Sect. 2 EYES (con'd) 7. Fundus Normal Abnormal IF ABNORMAL, specify: 8. Additional Comments	Sect. 3 LYMPH NODES (cont'd) 4. Additional Comments
8. Additional Comments	Sect. 4 NECK 1. Thyroid Not felt Felt
Sect. 3 LYMPH NODES (check those that apply) 1. Cervical Not felt Small Large Tender Soft Firm 2. Axillary Not felt	Smooth Nodular Enlarged Not enlarged 2. Pulsation in neck Absent Present IF PRESENT: Normal Abnormal IF ABNORMAL, describe:
Small Large Tender Soft Firm 3. Inguinal Small Large Tender Soft Firm	3. Additional Comments

	Sect. 5 CHEST: GENERAL DESCRIPTION		Sect. 7 HEART
١.	Breasts	1.	Cardiac dullness
	Normal IF ABNORMAL, describe:		cm. to right midsternal line cm. to left midsternal line
		2.	Neck-vein distention
			☐ None ☐ Normal ☐ Marked
2.	Chest expansion	3.	Heart rhythm
	☐ Equal ☐ Unequal IF UNEQUAL, describe:		Regular Irregular IF IRREGULAR, specify: (name arrhythmia)
3.	Respiration		
•	Rate per minute		
l o	Additional Comments		
		4.	Murmurs
			☐ None ☐ Present (SPECIFY BELOW)
	Sect. 6 LUNGS		a. Mitral
L.	Findings on Percussion and Auscultation		Systolic Grade
	Normal Specify ABNORMALITIES:		Diastolic Orade
			b. Tricuspid
2.	Additional Comments		Grade
			Diastolic Grade

Sect. 7 HEART (cont'd) 4. Murmurs (cont'd)	Sect. 7 <u>HEART</u> (cont'd) 8. <u>Additional Comments</u>
c. Aortic	
Grade Diastolic Grade	Sect. 8 ARTERIES 1. Radial pulse
d. Pulmonary	☐ Equal ☐ Unequal
Systolic Grade	2. Radial Vessels Soft Hard
Grade	Diffuse thickening
e. Specify character and trans- mission of murmurs:	3. Brachial Vessels (elbow straight) □ Not felt
	☐ Straight ☐ Tortuous
	4. Posterior tibial pulse
5. Gallop None	
Yes IF YES, specify:	5. Dorsalis pedis pulse
	Right Left
6. Pulse Rate: per minute	☐ Present ☐ Present ☐ Absent ☐ Absent
7. Blood Pressure (reclining several minutes, right arm)	6. Femoral pulse Right Left
	☐ Present ☐ Present ☐ Absent ☐ Absent

	Sect. 8 ARTERIES (cont'd)	Sect. 9 ABDOMINAL EXAMINATION (cont'd)
7.	Varicose veins	2. Spleen (cont'd)
	□ None □ Moderate □ Minor □ Severe	a. Description (cont'd)
8.	Additional Comments	
		3. Kidney
		a. Description
		Right Left
	CA O ADDOUTNAT EVANTNAMTON	Not palpable Not palpable Palpable Palpable
1.	Sect. 9 ABDOMINAL EXAMINATION Liver	IF PALPABLE: IF PALPABLE
	a. Description	☐ Normal Size ☐ Normal Size ☐ Enlarged ☐ Enlarged
	☐ Not palpable ☐ Palpable	☐ Tender ☐ Tender ☐ Not tender ☐ Not tender
	☐ Smooth ☐ Not Smooth	4. Hernia
	☐ Tender ☐ Not Tender	a. Present?
	☐ Hard ☐ Soft	Yes IF YES:
	☐ Not enlarged ☐ Enlarged	☐ Direct ☐ Direct ☐ Indirect ☐ Indirect
	IF ENLARGED:	☐ Inguinal ☐ Inguinal ☐ Femoral ☐ Femoral
	Lower edge cm. below costal margin	Umbilical
	Upper border in th interspace	e 5. Testes
2.	Spleen	☐ Normal ☐ ABNORMAL, describe:
	a. Description	
	☐ Not palpable ☐ Palpable:	
	cm. below costal margin	n
	Smooth Not Smooth	

Sect. 9 ABDOMINAL EXAMINATION (cont'd)	Sect. 10 NERVOUS SYSTEM (cont'd)
6. Additional Comments	h. Reflexes
	a. Tendon Reflexes
	A. Biceps
	☐ Normal ☐ Abnormal (Specify)
Sect. 10 NERVOUS SYSTEM 1. General Defects (such as dysphasia, ataxia, agnosia, etc.)	☐ Hypoactive ☐ Absent ☐ Hyperactive B. <u>Triceps</u>
Absent Present IF PRESENT, specify:	☐ Normal ☐ Abnormal (Specify)
	☐ Hypoactive ☐ Absent ☐ Hyperactive
2. Cranial Nerves	C. Knee
☐ Normal ☐ ABNORMAL, specify:	Normal Abnormal (Specify)
	☐ Hypoactive ☐ Absent ☐ Hyperactive
3. Motor Function	D. Ankle
a. <u>Tremors</u> Absent	Normal (Specify)
Present IF PRESENT, specify:	☐ Hypoactive ☐ Absent ☐ Hyperactive
	b. Plantar Responses
b. <u>Spasticity</u> Absent Present IF PRESENT, specify:	☐ Normal ☐ Abnormal (Specify)

_		
	Sect. 10 NERVOUS SYSTEM (cont'd)	Sect. 11 SPINE
٠.	Reflexes (cont'd)	Check those present:
	c. Romberg Positive Negative	<pre> Kyphosis Scoliosis Lordosis Other (Specify)</pre>
ί.	Sensory Changes	
	a. Touch	
	Normal (Specify)	
		Sect. 12 JOINTS
	b. Vibratory Sense	1. Swelling (soft tissue, thickening or fluid)
	☐ Normal ☐ Abnormal (Specify)	☐ Absent ☐ Present IF PRESENT, specify joints and describe:
	c. Position Sense	
	Normal (Specify)	
		2. Tenderness
		Absent Present IF PRESENT, specify joints and describe:
	Additional Comments	

	Sect. 13 SUBCUTANEOUS NODULES
	Absent Present IF PRESENT, specify location and describe:
	Sect. 14 RECTAL EXAMINATION Describe:
6	

Section 15 FUNCTIONAL AND THERAPEUTIC CLASSIFICATION OF HEART DISEASE

NOTE: For all those patients with a cardiac condition please check the appropriate functional and therapeutic classifications.

Check	
one	1. FUNCTIONAL CLASSIFICATION
	a. Patients with a cardiac disorder without limitation of physical activity. Ordinary physical activity causes no discomfort.
	b. Patients with a cardiac disorder with slight to moderate limitation of physical activity. Ordinary physical activity causes no discomfort.
	c. Patients with a cardiac disorder with moderate to great limitation of physical activity. Less than ordinary physical activity causes discomfort.
	d. Patients with a cardiac disorder unable to carry on any physical activity without discomfort.

Check	2. THERAPEUTIC CLASSIFICATION
	a. Patients with a cardiac disorder whose ordinary physical activity needs no restriction.
	b. Patients with a cardiac disorder whose ordinary physical activity needs no restriction but who should be advised against unusually severe or competitive efforts.
	c. Patients with a cardiac disorder whose ordinary physical activity should be moderately restricted, and whose more strenuous habitual efforts should be discontinued.
	d. Patients with a cardiac disorder whose ordinary physical activity should be markedly restricted.

Section 16 FUNCTIONAL AND THERAPEUTIC CLASSIFICATION OF PULMONARY DISEASE

 $\frac{\hbox{{\tt NOTE}\,{\tt 1}}}{\hbox{{\tt the}}}$ For all those patients with a pulmonary condition please check the appropriate functional and therapeutic classifications.

Check	
one	1. FUNCTIONAL CLASSIFICATION
	a. Patients with a pulmonary disorder without limitation of physical activity. Ordinary physical activity causes no discomfort.
	b. Patients with a pulmonary disorder with slight to moderate limitation of physical activity. Ordinary physical activity causes no discomfort.
	c. Patients with a pulmonary disorder with moderate to great limitation of physical activity. Less than ordinary physical activity causes discomfort.
	d. Patients with a pulmonary disorder unable to carry on any physical activity without discomfort.

Check						
one	2. THERAPEUTIC CLASSIFICATION					
	a. Patients with a pulmonary disorder whose ordinary physical activity needs no restriction.					
	b. Patients with a pulmonary disorder whose ordinary physical activity needs no restriction but who should be advised against unusually severe or competitive efforts.					
	c. Patients with a pulmonary disorder whose ordinary physical activity should be moderately restricted, and whose more strenuous habitual efforts should be discontinued.					
	d. Patients with a pulmonary disorder whose ordinary physical activity should be markedly restricted.					

Section 17 FUNCTIONAL CLASSIFICATION OF NEUROLOGICAL DISEASE

MOTE: For all those patients with a neurological condition please check the appropriate functional classification.

Check one	FUNCTIONAL CLASSIFICATION				
	a. Patients with a neurological disorder without limitation of physical activity.				
	b. Patients with a neurological disorder with slight to moderate limitation of physical activity.				
	c. Patients with a neurological disorder with moderate to great limitation of physical activity.				
	d. Patients with a neurological disorder unable to carry on any physical activity.				

Section 18 FUNCTIONAL CLASSIFICATION OF MUSKULOSKELETAL DISEASE

NOTE: For all those patients with a muskuloskeletal condition please check the appropriate functional classification.

Check	FUNCTIONAL CLASSIFICATION			
	a. Patients with a muskuloskeletal disorder without limitation of physical activity.			
	b. Patients with a muskuloskeletal disorder with slight to moderate limitation of physical activity.			
	c. Patients with a muskuloskeletal disorder with moderate to great limitation of physical activity.			
	d. Patients with a muskuloskeletal disorder unable to carry on any physical activity.			

EVALUATION SHEET

ADDITIONAL CLINIC WORK-UP a. X-ray; Joints (specify) None b. Laboratory tests: None RECOMMENDATIONS a. X-ray; b. Laboratory test; c. Other;	DIAGNOSTIC IMPRESSIONS			
ADDITIONAL CLINIC WORK-UP a. X-ray: Joints (specify) None b. Laboratory tests: None RECOMMENDATIONS a. X-ray: b. Laboratory test: c. Other:				
a. X-ray; Joints (specify) None b. Laboratory tests; None RECOMMENDATIONS a. X-ray; b. Laboratory test; c. Other;				
a. X-ray; Joints (specify) None b. Laboratory tests; None RECOMMENDATIONS a. X-ray; b. Laboratory test; c. Other;				
a. X-ray; Joints (specify) None b. Laboratory tests; None RECOMMENDATIONS a. X-ray; b. Laboratory test; c. Other;				
a. X-ray; Joints (specify) None b. Laboratory tests; None RECOMMENDATIONS a. X-ray; b. Laboratory test; c. Other;				
None b. Laboratory tests: None RECOMMENDATIONS a. X-ray: b. Laboratory test: c. Other:	ADDITIONAL CLINIC WORK-U	P		
b. Laboratory tests: None RECOMMENDATIONS a. X-ray: b. Laboratory test: c. Other:	a. X-ray:	Joints (specify)		
RECOMMENDATIONS a. X-ray: b. Laboratory test: c. Other:	None			
RECOMMENDATIONS a. X-ray: b. Laboratory test: c. Other:	b. Laboratory tests:			
a. X-ray: b. Laboratory test: c. Other:	None			
a. X-ray: b. Laboratory test: c. Other:	PEGONOGEND ATTONIC			
c. Other:				
c. Other:				
	b. Laboratory test:			
M.D.	c. Other:			
		м. D.		

MUSCLE STRENGTH & JOINT RANGE OF MOTION



CHRONIC DISEASE SURVEY MUSCLE STRENGTH AND JOINT RANGE OF MOTION TEST

Name	Study No.		
Address			
Date of Examination		TIME began	m.
Clinic: JH UH M	G MG(U)	ended	m.
Not performed SPECIFY: Incomplete	<u></u>		
LEFT MOVEMENT	RIGHT		
R.O.M. STRG.	STRG. R.O.M.	COMMENTS	
NECK			
Flexion			
Extension			
TRUNK			
Flexion			
Extension			
SHOULDER			
Flexion			
Extension			
Abduction			
Adduction			
Int. Rotation			
Ext. Rotation			-
ELBOW	<u> </u>		
Flexion			
Extension			
WRIST			
Flexion			

LEFT MOVEMENT RIGHT						
R.O.M.	STRG.		STRG.	R.O.M.	COMMENTS	
		HAND				
		Finger flexion				
		Finger extension			-	
		Thumb flexion				
		Thumb extension				
		Thumb abduction				
		Thumb opposition				
		HIP		1		
		Flexion				
		Extension				
		Abduction				
		Adduction				
		Int. Rotation				
		Ext. Rotation	<u> </u>	l		
T		KNEE		Γ]	
		Flexion				
		Extension				
		ANKLE & FOOT				
		Dorsi flexion				
		Plantar flexion				
		Toe flexion				
		Toe extension				
	FACE					
)		
		Muscles of Expression				
Handedn	Handedness: R L R + L					
Gait:						
_	Coordination; tremor; etc.					
coorain	ation; T	bremor; ecc.				
Examiner						

Appendix C INDEX OF SOCIOECONOMIC STATUS SCORING SYSTEM



INDEX OF SOCIOECONOMIC STATUS

Variables and derived scores used in obtaining both pre- and post-onset index measures.

PRE-ONSET PHASE

Distribution by Occupational Status, Denials and Allowances Combined

Occupational Status	No.	Cum. % & Range	Score (Midpoint)
Prof., Mgr. & Kind. Wkrs.	200	86.5 - 100.0	93
Clerical & Sales Wkrs.	175	74.7 - 86.4	80
Crafts., Fore., & Kind. Wkrs.	486	41.8 - 74.6	58
Operatives & Kind. Wkrs.	359	17.4 - 41.7	30
Service Workers	152	7.1 - 17.3	12
Laborers	104	00 - 7.0	1,
Total	1476		

Distribution by Educational Levels, Denials and Allowances Combined

Educational Level	No.	Cum. % & Range	Score (Midpoint)
Post College	17	99.0 - 100.0	100
4 Yrs. College	25	97.4 - 98.9	98
1-3 Yrs. College	52	94.1 - 97.3	96
12th Grade	135	85.4 - 94.0	90
9th - 11th Grade	263	68.5 - 85.3	77
8th Grade	364	45.2 - 68.4	57
5th & 7th Grade	533	11.0 - 45.1	28
4th Grade or Less	153	01.2 - 10.9	6
None	17	00 - 01.1	1
Total	1559		

Unknown

5

POST-ONSET PHASE

Distribution by Socioeconomic Tenths According to Census Tract Residence Location, Denials and Allowances Combined

Socioeconomic Tenths	No.	Cum. % & Range	Score (Midpoint)
09 (high)	80	95.0 - 100.0	98
08	101	88.5 - 94.9	92
07	110	81.5 - 88.4	85
06	106	74.7 - 81.4	78
05	128	66.5 - 74.6	70
04	142	57.4 - 66.4	62
03	136	48.7 - 57.3	53
02	199	36.0 - 48.6	42
Ol	255	19.6 - 35.9	28
00 (low)	305	00 - 19.5	10
Total	1562		

Unknown

2

Distribution by Annual Income Level, Denials and Allowances Combined

Annual Income Level	No.	Cum. % & Range	Score (Midpoint)
≥ \$7000	130	90.6 - 100.0	95
6000 < 7000	60	86.2 - 90.5	88
5000 < 6000	91	79.5 - 86.1	83
4000 < 5000	143	69.0 - 79.4	74
3000 < 4000	222	52.8 - 68.9	61
2000 < 3000	275	32.6 - 52.7	43
1000 < 2000	321	09.1 - 32.5	21
500 < 1000	97	02.0 - 09.0	6
< 500	26	00 - 01.9	1
Total	1480		

Unknown

115

Appendix D INDEX OF MOBILITY-ACTIVITY SCORING SYSTEM



INDEX OF MOBILITY - ACTIVITY

Score for this index is derived from Q's 8 and 9 of the interview schedule. A summary score of these two items, mobility and activity, is obtained in the manner shown below. A total score is an index of the degree of confinement and limitation of activity of R by means of self-assessment, i.e., according to his responses to these questions. The higher the score the greater the degree of independence on this index.

Q. 8 Mobility

Score obtained by assigning the following weight to the item checked in this question.

	<u>Item</u> <u>Weig</u>	h t			
	Confined in bed				
	a. Need help of person only				
(7)	d. Need both person & appliance 4				
(8)	Able to go outdoors 8				
If double check entry, take response of greatest mobility (i.e., higher numerical weight).					
Do not score an ommission.					

Q. 9 Limitations in daily activities

For each item, assign the following weights:

Item	If checked	If not checked
b c d	1 1 1 1 1	2 2 2
g h	0 0 0	1
•	1	
k	0	••••• 1

Do not score a "D.K." item.

Sum the weights obtained for all items. If a "D.K." next to an item, consider series of items incomplete

for obtaining a summary score.

If "N.R." next to Q., consider series of items incomplete.

CODE FOR INDEX OF MOBILITY - ACTIVITY

Code the score obtained by adding the numerical weight for Q_\star 8 and the summed score for Q_\star 9.

Code this score in cols. 69-70, Deck 3.

Range: minimum score 7 maximum score 25

00 - Incomplete response set, no index score.

Appendix E

RANGE OF MOTION AND MUSCLE STRENGTH INDEX SCORING SYSTEM



MUSCLE STRENGTH & JOINT RANGE OF MOTION EXAM

SUMMARY SCORES

RANGE OF MOTION

TOTAL SCORE - LEFT R.O.M.

Sum the R.O.M. numerical codes for all items and code this sum. If one or more items coded as "not recorded", the summary score is considered incomplete. For items coded 8, amputated, exclude these items in summing the total score but code the score obtained by summing the remaining items.

Range: 00 - 96

99 - N.A., incomplete score

TOTAL SCORE - RIGHT R.O.M.

Same code as for LEFT R.O.M.

SUMMARY SCORE - LEFT & RIGHT R.O.M.

Sum the total scores obtained for left and right ${\tt R.O.M.}$ and code this sum.

Range: 000 - 192

999 - N.A., incomplete score

MUSCLE STRENGTH

TOTAL SCORE - LEFT M.S.

Sum the M.S. numerical codes for all items and code this sum. If one or more items coded as "not recorded", the summary score is considered incomplete. For items coded 8, amputated, exclude these items in summing the total score but code the score obtained by summing the remaining items.

Range: 000 - 162

999 - N.A., incomplete score

TOTAL SCORE - RIGHT M.S.

Same code as for LEFT M.S.

SUMMARY SCORE - LEFT & RIGHT M.S.

Sum the total scores obtained for left and right M.S. and code this sum.

Range: 000 - 324

999 - N.A., incomplete score

RANGE OF MOTION

If exam not performed, use code 9 in all columns.

R.O.M. has been recorded in one of two ways. Either a categorical means has been used, e.g., neck flexion code, or an actual range in degrees has been used, e.g., shoulder flexion code. The categorical system can be coded directly from the form without further explanation. However, certain motions are recorded in terms of minus degrees, i.e., degrees less than full range of motion. The minus degree recording can be coded directly from the form using the range in degrees code specific to the joint. E.g., if shoulder flexion is recorded as -20 degrees, this is in the range of "< -30", defined as a mild limitation and is coded 1.

R.O.M. data is to be coded for the LEFT side first and then coded for the RIGHT side. (On the M & J form, these are the first and fourth columns, respectively, from the left.)

AMPUTATION OF EXTREMITY. Where applicable, use code 8 for amputations.

(LEFT and RIGHT R.O.M. items coded separately.)

NOTE: Use the following code for NECK and TRUNK items.

- 0 Normal
- 1 Mild limitation
- 2 Moderate limitation
- 3 Severe limitation
- 9 Not recorded

NECK flexion

NECK extension

TRUNK flexion

TRUNK extension

SHOULDER flexion

O - (N) Normal

1 - < -30

2 - -30 < -80

3 - > -80

9 - Not recorded

SHOULDER extension

- 0 (N) Normal 1 < -20 2 -20 < -40 3 ≥ -40

- 9 Not recorded

SHOULDER abduction

- 0 (N) Normal 1 < -40 2 -40 < -90 3 ≥ -90

- 9 Not recorded

SHOULDER adduction (reverse direction)

- O (N) Normal
- 1 < -20 2 -20 < -40 3 ≥ -40
- 9 Not recorded

SHOULDER internal rotation

- 0 (N) Normal 1 < -30 2 -30 < -60 3 ≥ -60

- 9 Not recorded

SHOULDER external rotation

Same code as shoulder internal rotation

ELBOW flexion

- 0 (N) Normal 1 < -30 2 -30 < -80 3 ≥ -80

- 8 Amputated 9 Not recorded

ELBOW extension (reverse direction)

- O (N) Normal
- 1 < -30 2 -30 < -60 3 ≥ -60

- 8 Amputated 9 Not recorded

WRIST palmar flexion

Same code as elbow extension

WRIST extension (dors1 flexion)

Same code as elbow extension

NOTE: Use the following code for all HAND items.

- O Normal
- 1 Mild limitation
- 2 Moderate limitation
- 3 Severe limitation
- 8 Amputated 9 Not recorded

HAND finger flexion

HAND finger extension

HAND thumb flexion

HAND thumb extension

HAND thumb abduction

HAND thumb opposition

HIP flexion

- 0 (N) Normal 1 < -30 2 -30 < -60
- 3 ≥ -60
- 9 Not recorded

HIP extension

- O (N) Normal
- 1 < -15 2 -15 < -25 3 \geq -25
- 9 Not recorded

HIP abduction

- O (N) Normal
- 1 < -20 2 -20 < -35 3 ≥ -35
- 9 Not recorded

HIP adduction (reverse direction)

- 0 (N) Normal 1 < -10 2 -10 < -20 3 \geq -20

- 9 Not recorded

HIP internal rotation

- 0 (N) Normal 1 < -20 2 -20 < -35 3 \geq -35

- 9 Not recorded

HIP external rotation

Same code as internal rotation

KNEE flexion

- 0 (N) Normal 1 < -30 2 -30 < -60 3 ≥ -60

- 8 Amputated
- 9 Not recorded

KNEE extension (reverse direction)

- 0 (N) Normal 1 < -15 2 -15 < -40

- 3 > -40 8 Amputated
- 9 Not recorded

ANKLE and FOOT dorsi flexion

- 0 (N) Normal 1 < -20 2 -20 < -30

- 3 ≥ -30 8 Amputated 9 Not recorded

ANKLE and FOOT plantar flexion

- 0 (N) Normal 1 < -15
- 2 -15 < -35
- 3 ≥ -35 8 Amputated
- 9 Not recorded

ANKLE and FOOT toe flexion

- 0 Normal
- 1 Mild limitation
- 2 Moderate limitation
- 3 Severe limitation
- 8 Amputated
- 9 Not recorded

ANKLE and FOOT toe extension

Same code as toe flexion

MUSCLE STRENGTH

If exam not performed, use code 9 in all columns.

Muscle strength data is to be coded for the LEFT side first and then coded for the RIGHT side. (On the M & J form, these are the second and third columns, respectively, from the left.)

AMPUTATION OF EXTREMITY. Where applicable, use code 8 for amputations.

Use the following code for <u>all</u> muscle strength items, both left and right side, except for facial muscles. Code in the designated columns shown below.

- 0 (N) Normal 1 (G) Good

- 2 (F) Fair 3 (P) Poor 4 (T) Trace 5 - (0) No power
- 8 Amputated (where applicable)
- 9 Not recorded

(LEFT and RIGHT M.S. items coded separately)

NECK flexion

NECK extension

TRUNK flexion

TRUNK extension

SHOULDER flexion

SHOULDER extension

SHOULDER abduction

SHOULDER adduction

SHOULDER internal rotation

SHOULDER external rotation

ELBOW flexion

ELBOW extension

WRIST palmar flexion

WRIST extension

HAND finger flexion

HAND finger extension

HAND thumb flexion

HAND thumb extension

HAND thumb abduction

HAND thumb opposition

HIP flexion

HIP extension

HIP abduction

HIP adduction

HIP internal rotation

HIP external rotation

KNEE flexion

KNEE extension

ANKLE and FOOT dorsi flexion

ANKLE and FOOT plantar flexion

ANKLE and FOOT toe flexion

ANKLE and FOOT toe extension

FACE muscles of expression

0 - (N) Normal 1 - (SN) Subnormal 2 - (0) No evidence of contractility

9 - Not recorded



Appendix F BDI ASSESSMENT FORM



J.H.U - S.S.A.

B.D.I. ASSESSMENT

Study	No	

In evaluating these cases you are to do so in two parts: (1) determine whether the individual's condition would have satisfied the medical severity requirements using the standards prior to the 1965 amendments; (2) then determine whether the individual satisfied the earnings test at onset or later. Boxes 1-½ represent individuals satisfying both the medical and earnings requirements. Boxes 5-8 represent individuals who satisfy the medical requirements but not the earnings requirements. By "allowable" in boxes 5-8 we do not mean the individual would be allowed under ordinary circumstances.

1. ASSESSMENT (CHECK APPROPRIATE BOX FROM ITEMS a-m)

	a. Allowable under regulation 1502(a) 1 b. Allowable under regulation 1502(a) 2 c. Allowable under regulation 1502(b) d. Allowable under regulation 1502(c)	Meets earnings test at onset or later	1
	e. Allowable under regulation 1502(a) 1 f. Allowable under regulation 1502(a) 2 g. Allowable under regulation 1502(b) h. Allowable under regulation 1502(c)		5 0 7 8 0 8 0 1 1 1 1 1 1 1 1 1
	 Denial - lack of severity - regulation Denial - able to engage - regulation Denial - engaging in SGA - regulation Denial - not expected to be long-comm. Denial - remediable condition - regulation 	1502(b)	9 10 11 12 13
2.		this person be allowable under 1965 tion of disability?	
	a. Nob. Yes - meets earnings test and the companients.c. Yes - does not meet earnings.	at onset or later	0 1 2
3.	Date of onset of disability (mo.) (de	a. <u>Basis:</u> Established Alleged	1 []
	COMPLETE Q. 4 ONLY IF BOXES 1,2,3, or 4:	IN Q.1, ASSESSMENT, ARE CHECKED:	
4.	Date beginning period of disability (mo	o.) (day) (year)	
5.	What, if any, additional evidence could none, check box for "none".)	you have used in evaluating this case? (If O 🗌
	(Examiner's name)	(Date)	



Appendix G STUDY TEAM



STUDY TEAM

Research Staff

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- The death rate was higher among allowances. The chance of surviving 4 years after disability determination was 53 percent for allowances, and 97 percent for denials.
- Both groups were characterized by low income and assets, but denials tended to decline after disability to a lower socioeconomic level than the allowances.
- Medical evaluation of individual applicants showed that denials were less restricted in movement and in better health generally than the allowances.
- In a reassessment of disability status, the denial group showed the greater rate of change over time, nearly one-quarter of them then being allowable.

The basic conclusion made by the authors is that, from the standpoint of program objective, the disability evaluation process is effective in that it differentiates the severely disabled from those less disabled in the applicant population. A number of recommendations are made as a result of the findings, among which are the following:

- That disability applicants be systematically recalled at intervals and reassessed to evaluate changes in disability;
- 2. That the guides for judging severity of disability be liberalized to include persons already handicapped in the labor market due to the progressive nature of their diseases, but for whom a claim of severe disability may be inconclusive;
- 3. That contact be maintained with denied applicants as a means of providing continuity between evaluation and utilization of physical and vocational rehabilitation services.

Finally, the authors urge a critical appraisal be made of the rationale of the disability program's objective, which is "the payment of income-loss benefits to persons severely disabled and unable to engage in substantial gainful activity." The suggestion is that identifying the disabled should not be delayed until such a critical juncture when disease has already resulted in severe incapacity.

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